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GENERAL INDEX.

Use of the index will be facilitated by bearing in mind that subjects are frequently given under two or more headings, e. g., brain, cerebral, tumors, etc.; heart and cardiac; cirrhosis, liver and hepatic; child, children and infant; gland, thyroid, etc. Often, too, writers treat of the eye, ear, nose and throat under one head, etc., and the titles do not always permit of indexing under the several headings. The "General Index" contains only titles of articles, editorials, society reports, abstracts, and miscellaneous matter appearing in The Journal; the book notices, deaths, societies, marriages, authors, and titles of articles mentioned in the "Current Medical Literature" department are indexed and arranged under their separate headings instead of in the body of the "General Index."

---

domen, contusions of, 1424
  foreign bodies in, 1211
  gunshot wound of, 1348
dominal cavity, air tamponing of, in hemorrhage, 1149
  disease, acute pain in, 135
  incision, closure of, 1480
  operations, shock in, 1145
  section, "my first," 1480
  surgery, catharsis in, 144
  surgery, progress of, 412
  surgery, right-side, 144
bortion, 1555
  criminal, 61
  infection in, 1066
bortionists, reputation for skill as, 658
bscess, mastoid, local anesthesia in, 728
  of abdominal wall simulating Pott's disease, 1458
  tonsillar, 1351
  tubercular mammary, 289
bscesses, appendicular, 220
  cerebral, with bronchial lymph glands disease, 74
  pelvic appendiceal, 1143
  retropharyngeal, 1350
bstinence, total, moderate drinking and, 1396
bt, I. A., multiple gangrene, 445
ccidents, 1704
  and diabetes, 873
cetanilid, 147
cid, carbolic, 1730
  carbolic, in burns, 662
  chromic, in cancer, 410
  cinnamic, in tuberculosis, 415
  intoxication in epilepsy, 481
  lactic, 535
  nitric, in noma, 1402
  oxalic, origin of, 600
  oxalic, presence of, in organism, 452
  phosphoric, in dyspepsia and neurasthenia, 289
  picric, in smallpox, 543
  salts of sulpho-carbolic, 995
cids, gastric, 1492
cne, 1338
  x-rays in, 822
cromegaly, 607, 887
ctinolyte, the, 21
ctinomycosis hominis, 661
ctinotherapy in cutaneous medicine, 21
ctinomycosis in parametrium, 1147
cute contagious disease, prevention of spread of, 210
ddison's disease, 277
ddress before Section on Practice of Medicine, 77
  Chairman's, Section of Ophthalmology, 977
  Colorado State Medical Society, 138
  in medicine, B. M. A., 538
  in medicine, Mississippi Valley Medical Association, 932
  in mental disorders, 929
  in otology, Pennsylvania State Society, 928
  in surgery, B. M. A., 538
  Medical Society of Virginia, 1450
  Medical Society State of Pennsylvania, 927, 995, 996
  of chairman, Section of Pathology and Bacteriology, 1431
  Ontario Medical Association, 48
  opening, American Public Health Association, 930
Address, President, French Congress of Alienists, 655
  Presidential, American Association of Obstetricians and Gynecologists, 856
  Presidential, American Public Health Association, 931
  Presidential, Canadian Medical Association, 711
  Presidential, Mississippi Valley Medical Association, 849
  Presidential, Pennsylvania State Medical Society, 930
  Presidential, Southern Surgical and Gynecological Association, 1481
  San Francisco County Medical Society, 1628
  Wisconsin State Medical Society, 135
Adenoids, morbid conditions simulating, 1068
Adenoma of adrenals in newborn, 1493
  sebaceum, of non-symmetric type, 176
Adenomata, ovarian, 286
Adenoid operation, 472
Adenoids, changes in facial bones from, 246
  diagnosis of, 1144
Adhesion, Gersuny's, 729
Adhesions, peritoneal, 720
  post-operative peritoneal, 211
Adrenalin, 145, 219, 1065
Adrenals, experimental tuberculosis of, 452
Advancement, 604
Advertisements, criminal, 393
Advertising, 232
Agar-agar injections, 663
Age and sex in gastric ulcer and carcinoma, 1426
Aged, surgical operations on, 1424
Agents' request, services at, 280
Agglutination of yeast cells, 1354
  in various infections, 1710
Air and sun cure, 210
  currents in nasal respiration, 352
  lavage of pleural cavity, 481
  passages, local treatment of upper, 1425, 1495
  passages, pulmonary affection originating in upper, 353
  passages, removal of foreign bodies from, 1077
  passages, tubercular infection through, 289
  super-heated dry, 712
  tamponing of abdominal cavity, 1149
Akouphone, 1150
Alabama medical news, 585, 706, 1121, 1324
Alaska, disease in, 1705
Albumin, formalin test for, 1282
Albuminuria, 1560
  cyclic, 351, 942, 1279, 1711
  in childhood, 641
  new points in treatment of, 1642
  new standpoint for treatment of, 1499
  orthostatic, 1282
Albumosuria, myelopathic, 351
Alcohol, 864, 941, 1349
  effects of, 662
  effect of, on retina, 1445
  fomentations in pleurisy and arthritis, 342
  in phthisis, 1349
  therapeutic value of, 939
Alcoholism, 1351
  relation of, to tuberculosis, 538
Alexander's operation, 1193
Alford, E. T., simple fracture of vault, 834
Alkaptonuria, 1708
Allen, C. W., rhinoscleroma, 1593
Allowances for care of sick, discretion as to, 280
Allport, F., new instruments, 1335
Allyn, H. B., statistics of typhoid, 1058
Alopecia, 282
  areata, kerosene frictions for, 666
  areata, Roentgen treatment of, 1356
  neurotic, 799
Altitudes, high, blood count at, 1424
Alum enemas, 222
Amalgam, bone filling with, 1483
Amaurosis, uremic, and albuminuric retinitis, 284
Amberg, E., Leiter's apparatus, 323
Amblyopia, Jamaica ginger, 1447
  toxic, 1202
Ambulances, 221
American Humane Association, 1049
  Journal of Anatomy, the, 1395
  Medical Association, importance of, 856; see also ASSOCIATION.
  medical colleges, list of, with graduates, etc., 758
  medical literature, index of, 1722
  medical profession, reorganization of, 652
Amnesia, case of localized, 1601
Amphitheater clinic, teaching by, 771
Amputations, 1001
  intrauterine, 547
Amygdalitis, acute, 1064
Amyl nitrate, chloroform and, 605
  nitrite in spinal cocainization, 153
Anal pockets, 46
Anakhre, goundou or, 1354
Analgesia, anesthesia and, 1065
  combined, 1207
  spinal, 1144
  spinal, tropa-cocain in, 75
Anasarca, mechanical treatment of, 1713
Anastomosis, ureteroureteral, 254
Anatomy, relational, 836
  rational method of teaching, 731
Anders, J. M., Address on Practice of Medicine, 77
  J. M., respiratory conditions in gout, 997
Anderson, M., methods in preparation of teeth, 90
Andrews, R. R., address on stomatology, 3
Anemia, chronic, saline infusion in, 341
  intermittent pernicious, 1167
  of young children, 354
  pernicious, 410, 483, 577, 1144, 1414
  pernicious, enterogenic origin of, 228
  pernicious, in infants, 942
  splenic, 712, 1142, 1275, 1347
Anesthesia and analgesia, 1065
  aural, 474
Anesthesia, compress method of, by ethyl chlorid, 1497
  nausea, 411
  nitrous oxid and ether, 223
  nitrous oxid, asphyxial factor in, 1425
  Schleich's local, 948
  spinal, 220
  spinal, in obstetrics, 351
  teaching of, in medical schools, 778
Anesthetics for children, 1143
  notes on, 581
Anesthetization as a specialty, 348
  cardiac accidents after, 473
Aneurysm, aortic, 293, 866
  aortic, mechanical treatment of, 231
  cure of enormous dissecting, 462
  gelatin treatment of, 1623
  of mesenteric artery, diagnosis of, 1428
Aneurysms, gelatin treatment of, 459, 540
Angina, scarlatinal and diphtherial, defense against, 1499
  ulceromembranous, 1702
Angiomatosis, multiple cavernous, 1710
Angio sarcoma, cerebral, 66
Anilin in treatment of tuberculosis, 1282
Anilin oil, 1351
Animals, infection by, 599
Anisometropia, 1705
Ankylostomata duodenale, 451
Ankylostomiasis, 284, 1466, 1694
  case of, 1454
  mode of infection in, 117
Anopheles as hosts of trematode, 274
  influence of color on, 944
Anthony, H. G., improved method of attaching metallic sound to filiform bougie, 1263
  H. G., syphilis and blastomycetic dermatitis, 104
Anthrax, danger of, from horsehair, 411
  in Ontario, 337
  treatment of, 1148
Anthropology, Congress of Criminal, 1199
Anthropometric data, evaluation of, 1645
Anti-bodies, microbian, practical diagnosis by, 666
Anti-diphtheria serum, tetanus from, 1255
Anti-malarial campaign, 923
Antimony, localization in organism, 1214
Antisepsis vs. asepsis, 1539
  surgical, 1208
Antitetanic serum, 339
Antitoxin, 537, 718
  care in manufacture of, 1323
  diphtheria, 283, 719
  expensive dosage of, 226
  use of large doses of, 124
Antituberculosis serum, 669
Antityphoid inoculation, results of, 1352
Antivenene, investigations upon, 1597
Antivivisection, misstatements of, 400
Antivivisectionists, method of, 702
Antrum abscess, 1144
  empyema of, in children, 532

Antrum, serous disease of, 474
Anuria and uterine carcinoma, 726
Anus, treatment of abnormal, 227
Aortic insufficiency, cured case of, 153
  insufficiency, valvular compensation in, 119
  lesions, 997
Aphasia, hysteric, 479
  treatment of motor, 608
Apomorphia, 1006
Apoplexy, 1419
  etiology of, 1419
Appendages, uterine, conservative treatment of, 489
Appendicectomy—surgical history, 1533, 1620
Appendicitis, 80, 471, 535, 1067, 1564, 1637, 1638, 1703
  and infectious disease, 1729
  avoidable causes of disaster in, 1480
  early operations in, 858
  ideals in, 66
  in female, 1729
  in life insurance, 1351
  intestinal parasites in, 477
  mortality of, 898
  rare complications in, 1056
  rarity of, in Mexico, 1357
  Tuffier's statistics on, 988
  unusual features of, 949
Appendix, auto-amputation of, 153
  extirpation of, 607
  function of, 852, 924
  vermiform, 997
  vermiformis, topography of, 290
Arizona medical news, 1121, 1614
Arm, damages for loss of, 61
  malformations of, 143
Army canteen, 930, 1620
  health of, 1041
  medical department, organization of, in war, 455
  preventable disease in, 1110
Arrhythmia and fatty degeneration, 1049
Arsenic, influence of, on healthy tissues of skin, 1068
  iodid in chronic bronchitis of children, 478
Arteries, torsion of, 1056
Arteriosclerosis, 1337
  cardiac manifestations of, 1337
  early signs of, 1623
  management and therapeutics of, 1337
Artery, mesenteric, aneurysm of, 1428
Arthritis, blennorrhagic, electricity in, 988
  rheumatoid, 285, 1634
Arthrodesis in infantile paralysis, 1490
Ascites, due to syphilitic cirrhoses of liver, 1057
  hydatid fremitus in, 1712
  in hepatic cirrhosis, 412
Asepsis, inexpensive, 416
Aspergillus keratitis, 219
Asphyxia, treatment of threatened, 225, 288
ASSOCIATION, AMERICAN MEDICAL.
  Davis, Dr. N. S., portrait of, 51
  members, list of registered, in different sections, at St. Paul, 54
  National Legislation, Committee on, 1691
  new members, 128, 340, 790, 1052, 1330, 1692
  Nicholas Senn prize medal, 926
  non-members, 51
  Pathologic exhibit, report on, 129
  St. Paul meeting as viewed by our confreres, 127
  Section on Cutaneous Medicine and Surgery, official minutes, 52
  Section on Hygiene and Sanitary Science, official minutes, 51
  Section on Laryngology and Otology, official minutes, 52
  Section on Materia Medica, Pharmacy and Therapeutics, official minutes, 53
  Section on Nervous and Mental Diseases, official minutes, 52
  Section on Ophthalmology, 1196
  Section on Pathology and Bacteriology, official minutes, 54
  Section on Physiology and Dietetics, official minutes, 54
  Section on Stomatology, official minutes, 51
  Section papers—non-members, 51
Association of American Medical Colleges, 757
Association of Military Surgeons, *Journal of the*, 1120
Associations, medical college, their influence on medical education, 775
Asthenopia, 866, 1706
  intranasal pressure and, 407
Asthma, 68, 851, 1476
  from nasal conditions, 241
  of blood origin, 1338
Astonishing if true, 916
Ataxia, cerebellar hereditary, 1070
  pure hereditary, 1073
Atoms, are they real entities, 914
Atresia heminalis, 194
Atrophies, muscular, 1141
Atrophy, facial, paraffin injections for, 946
  of stomach mucosa in chronic nephritis, 1357
  optic, 1705
Atropia in pulmonary edema, 864
Atropin in bradycardia, 669
  in ileus, 269
Audiffred prize, competition for, 1732
Aural pain, 287
Austria, patent medicines in, 461
Authority in medicine, 332
Authors—See special index, p. 1772
  and medical subjects, 648
Autoinfection, acute intestinal, 851
Autointoxications, 407
Automatic siphon for separating top milk, 1695
Autopsy on assassin, report disclaimed, 1262
Autosterilization, intestinal, 872
Award, $25,000 too much, 716

Babcock, R. H., adherent pericardium, 1578
Babe with one lung, 701
Babinski toe phenomenon, 1611
Baby farms, official inspection of, 1479
Bacillus diphtheria, 867
  diphtheria, varieties of, 713
  pyocyaneus, umbilical infection with, in newborn, 839
Backward child, diagnosis of, 973
  child, plea for, 976
Backwardness in children, speech as factor in diagnosis of, 975
Bacteria, effects of Tesla currents and *x*-rays on, 1432
  in immunized animals, 1354
  penetration of, in lungs, 1285
Bacteriology, *problems of*, 534
Bacteriolysis in typhoid immunity, 867
Bacteriuria, treatment of, 74
Baker, L. H., middle turbinate body, 189
  L. K., school hygiene, 970
Baldy, J. M., cancer of uterine neck, 314
Balantidium coli as cause of *chronic diarrhea*, 518
Ballantyne, J. W., hemophilia, 503
Ballin, M., Talma's operation, 137
Balloon ascents, medical, 1668
Bane, W. C., herpes zoster ophthalmicus, 1667
Barbat, J. H., bone filling with amalgam, 1483
  J. H., ectopic pregnancies, 1628
  J. H., gastro-enterostomy, 464
  J. H., renal and ureteral surgery, 323
Barbers in Montreal, 337
Basal cerebral lesions, 1346
Base line, interocular, 942
Basedow's disease, serum treat*ment of*, 1643
Bateson, J. C., medical examination for marriage, 997
Bath, infection of parturients by, 1355
Baths, hot, in pneumonia, 1075
Batten, J. M., acute intestinal *autoinfection*, 851
  J. M., strength, 997
Baum, W. L., ancient and modern conception of syphilis, 545
Beach, W. M., recto-colitis, 45
Beattie, T. J., puerperal eclampsia, 493
Beck, C., *congenital osseous* malformations, 966
  C., fat necrosis, 1180
Becker, W., fetal stomach, 1674
Beebe, W. L., smallpox—old and new, 299
Beer drinkers, peripheral neuritis in, 1213
Beffel, J. M., causes of sudden death, 135
Belgium, official test of drugs in, 1479
Bell's phenomenon, 1065
Beri-beri, etiology of, 1639
  in heart, 1566
Berlin, quacks of, 982
Beyea, H. B., *nephropexy*, 1058
Bile, influence of retention of, on stomach, 1498
Biliary calculi, surgery of, 857
  passages, diagnosis of infection of, 291
Billings, F., address in medicine, 932
  F., pericarditis, 1503
  F., pernicious anemia, 483, 577
Biochemical antagonism, new hypothesis of, 1709
Biopsy, 1276
Birth-rate and death-rate, general decrease of, 1538
  in New England, 331
  low, 838
Bishop, S. S., accessory nasal cavities, 113
Bismuth, in gastric ulcer, 1711
  intoxication with, 1395
  poisoning, 1544
  sub-salicylate in diarrhea, 1357
Bissell, J. D., retroversion of uterus, 1551
Bites, human, 1731
Bizzozero, Jules, notice of, 1333
Black Forest sanatoria, 591
Blackwater fever, 944
Bladder displacements and sacculation, 1056
  exstrophy of, 222
  extirpation of, 284
  infection of, 704, 1121
  intraperitoneal rupture of, 662
  obstruction of, 1636
  opening of, 349
  rupture of, 1206
  stones in, 149
  wounds of, 1560
Blennorrhagia, new treatment, 988
Blind as masseurs, 1023
  improved writing apparatus for, 1732
Blindness from methyl alcohol and Jamaica ginger, 1447
Blister-fluid, clinical examination of, 333
Blood alkalescence, 600
  antisepsis, 1211
  bactericidal power of, 944
  biologic test for, 944, 1355
  by whom existence of, may be proved, 1060
  chemical and microscopic examination of, 500
  coagulability of, 413
  composition of, 945
  corpuscles in typhoid, the, 1425
  count at high altitudes, 1424
  diagnosis by means of, 1567
  differentiation of variola and measles, 1353
  examination, 470, 721, 1207, 1337, 1561, 1726
  freezing point of, in prognosis, 1496
  hemolytic properties of, 1427
  impoverished, 1565
  in infancy, 1636
  in malignant tumors, 542
  in surgical diagnosis, 227
  in tuberculosis, the, 1501
  influence of metals on, 1570
  new blotting-paper test of, 728
  pressure, 533
  pressure in treatment of la grippe, 1183
  protozoa in, 718
  specimens, biologic differentiation in, 354
  stain, 1491
  structure study, 1004
  spitting or coughing of, 1344
  surgical diagnosis by, 1497
  test for fat in, 1049
  tests of leucemic, 341
  therapeutic indications from condition of, 1652
  typhoid bacilli in, 517, 1635
  vasomotor influences on, 266
  vessels, large suture of wounds of, 348
Blotting-paper test of blood, new, 728
Blue urine, 269, 1723
Blunder, *a proofreader's*, 116
Board of health secretaries in Oregon and Washington, 1219
Bone cavities, tubercular, rapid healing of, 1695
  filling with amalgam, 1483
  formation, influence of "stasis-hyperemia" on, 1429
  lesions, infantile, 1423
  new substance in, 1560
Bones and joints, typhoid affections of, 290
  development of, 1286
Book notices—See special index, p. 1748
Books received, 153, 293, 3 481, 543, 730, 876, 948, 107 1219, 1357, 1429, 1571, 1 1713
  medical, in evidence, 658
  multiplication of, 647
Borderland conditions, 1702
Borland, E. B., *address in hygien* 996
Boston ice supply, the, 1560
  L. N., tuberculosis, 685
Bottini operation, 408, 475, 1072 1490, 1562, 1634
  operation, present status of, 1056, 1267
Bovaird, Jr., D., primary intestinal tuberculosis in children, 1696
Bovee, J. W., nephro-ureterectomy, 1555
  J. W., ureteroureteral anastomosis, 254
Bovine *vs.* human tubercle bacillus, 398
Bracken, H. M., variola, 307, 713
Bradycardia, atropin in differen tiation of, 669
Brain, and its evolution, 723
  condition of, shown by pho graph, 529
  disease, 1003
  disease, temperature, pulse and respiration in, 138
  injury, immediate and remote effects of, 629
  recovery of boy shot through, 525
  syphilis, somatic signs of, 1100
Bray, J. L., typhoid fever, 713
Breech presentation, tracheotomy in, 1036
Bread-earner, our duty to consumptive, 287
Breast, hydatid disease of, 865
  malignant disease of, 67
  tumors of, 1728
Breisacher, L., artificially prepared food, 1094
Bright's disease and diabetes mellitus, 134
British Congress on Tuberculosis, 381
  Medical Association, 268
Brodhead, G. L., placenta duplex, 1269
Bronchial lymph gland, cerebral abscess in connection with disease of, 74
Bronchitis, *artificial respiration in treatment of*, 1073
  fibrinous, 1142
  infantile, 285
  treatment of chronic, in aged, 1214
  with asthma, cacodylic medication in, 1568
Bronchostenosis, 1702
Bronzed diabetes, pigment in, 540
Broun, L., hysterectomies, 1269
Brown, G. V. I., cleft palate, 135
  J. M., thuja occidentalis, 326
  P. K., acute lymphemia, 465
Bruce, H. A., sarcoma, 48
  H. A., tumor from stomach, 713
Bryant, J. D., operative surgery, 1338
Bryce, P. H., vaccinal protection against smallpox, 48
Buboes, malarial, 64
Bubonic plague, 1217
Bucco-antral route in neurectomy, 532
Buckman, E. U., *address in otology*, 928
Bull, R. H., tuberculosis in Indian school, 138
Buller, F., syphilis, 713
Bullet wound, abdominal surgery after, 1497
  [illegible] abscess 1458
  [illegible] sease, 135
  [illegible] 86
Burlesque number of medical journal, 1549
Burnett, C. H., incudectomy, 929
Burns, 661
  carbolic acid in, 662
  death from, 290
  ether to control pain in, 1570
  internal lesions from, 1420
  pathology of, 1393
Bursitis, chronic nasopharyngeal, 1005
Butler, G. F., personal error in [illegible]
  [illegible] food, 1501
  [illegible] homa, 713
  [illegible] l inspection, 1385
Cabot, R. C., iodophilia, 1337
Cacodylic acid, therapeutic employment of, 455, 539

codylic medication in bronchitis with asthma, 1568
careous deposit, artificially induced, 72
cium sulphide, 1067
lculi, biliary, causation, prophylaxis and management of, 132
  biliary, surgical treatment of, 1573
  production of biliary, 274
alculus, prostatic, removed through perineal incision, 1268
  renal, operative treatment of, 1281
  ureteral, 567
  x-ray in diagnosis of, 1208
alifornia medical news, 205, 394, 455, 520, 585, 640, 706, 840, 918, 983, 1043, 1121, 1188, 1324, 1470, 1614, 1684
alomel as diuretic, 152
  in dysentery, 1072
amp-followers of science, 1614
anada medical news, 37, 209, 273, 334, 396, 458, 522, 589, 709, 789, 844, 922, 987, 1016, 1125, 1192, 1250, 1327, 1401, 1473, 1543, 1618, 1688
  medical schools in, 763
anadian medical profession, the, 1470
ancer, 409, 1207, 1563
  contagiousness of, 230
  cutaneous, 471
  cutaneous, treatment of, 99
  diagnosis of gastric, 1069
  differentiating and treating, 1501
  esophageal, varices of tongue in, 1147
  freezing of, 645
  gastric, 287
  German committee for study of, 126
  in Massachusetts, 347
  inoperable, present treatment of, 1214
  intestinal, 719
  investigation of, 412
  its nature and treatment, 1214
  laryngeal, slow evolution of, 1568.
  novel theory of, 390
  of esophagus, 1136
  of gall-bladder, 1064
  of large bronchi, 290
  of rectum, 407
  of uterine neck, 314
  ovarian, 1551
  pathogenesis of, 288
  rectal, 1002
  rectal, new method of treating, 801
  rectal, new operation for, 23
  research, committee for, 1569
  surgical treatment of, 1727
  treatment of, by x-ray, 688
  uterine, 1421
  uterine, operation for, 1057
  uterine, surgical treatment of, 1193
  vaginal, 1635
  violet cure for, 1624
ancerous process, nature of, 671
anteen, the, 39
arbolic acid gangrene, 1492
  acid in septic wounds, 415
arbon bisulphid, effect of, on retina, 1445
  dioxid, influence of oxygen on elimination of, 231
arbonic-oxid-hemoglobin, 870
arbuncle, 138
arcinoma, 282
  age and sex in, 1426
  aural, 472
  cecal, 1019
  early diagnosis in, 674
  esophageal, 939
  etiology of, 481
  formalin [illegible]
  gastric, [illegible] with, [illegible]
  mammary, 660, 852
  of nasopharynx, primary, 371
  of skin, peculiar form of, 1590
  prophylaxis of, 870
  question, present status of, 804
  treatment of, by induced malaria, 1403
  uteri, 47
  uterine, anuria in, 726
  uterine, radical treatment of, 137
  vaginal, remote results of extirpation of, 414
  x-rays in, 824
Carcinosis, masked by hysteria, 414
Cardiac disease, mental disturbance in, 137
  disturbances, non-organic, 607
  specimens, 1627
Cardiopathy, latent, and sudden death, 607
Careless reporting, 917
Carotids, dangers from ligature of, 1708
Carpenter, G. T., simple gingivitis, 161
Carr, W., medical and dental examiners, 5
Carstens, J. H., floating liver, 850
  J. H., requirements of modern surgery, 1172
  J. H., vaginal hysterectomy, 858
Carveth, G. H., open treatment, 49
Case method of teaching, 777
Cases, classification of, 475
Casselberry, W. E., membranous pharyngitis, 186
Castor oil in neuralgia, 137
Castration for tuberculosis of testis, 41
  treatment of osteomalacia by, 1569
Casts, urinary, 1426
Cataract, dislocated, 1202
  extraction of, without iridectomy, 1513
  in diagnosis of diabetes, 1570
  plea for depression in, 1352
  spontaneous resorption of, 1641
  temporary clearing of, 1517
Catarrh, nasal, 796
Caterpillar hairs, conjunctivitis from, 1564
Catheterization, further report on permanent, 1221
Cauda equina, affection of, 543
Cecum, resection of, 265
Cedron seed in yellow fever, 341
Celiotomy, transverse incision in abdominal, 854
Celloidin capsules, 1278
  thread, 610
Cellular pathology in past and future, 1039
Cellulitis, aberrant mastoid, 708
Cerebellum, tubercles of, 226
Cerebrospinal fluid, diagnosis from, 149
  fluid, injections of quinin into, 1070
  meningitis, bacteriology of, 1218
Certificate, recording, can collect bill without, 216
Cervix, dilatation of, 941
  laceration of, 1002, 1409
  uteri, diseases of, 856
Cesarean section, 1002, 1278
  section for placenta previa, 495
  section in placenta previa, 856, 1349
  section, symphyseotomy and, 1355
  section, uterine tampon in, 1429
Chalazion, 604
Chambers, G., hyperchlorhydria, 512
Chancre, tonsillar, 1729
Change of residence, notice of, 1643
Chaparro armagosa, 544, 729
Charcoal bone in local tuberculosis, 415
Charitable institutions, private, 1492
Charities, lay control of, 982
Chase, R. H., address in mental disorders, 929
Chest diseases, nose and throat, in, 605
Chicken-pox and mild discrete smallpox, 305
Child, $20,000 for injury to, 344
Childbirth, influence of diet on, 152
Childhood, albuminuria in, 641
  diabetes mellitus in, 638
  mental diseases of, 143
  ocular affections of, 929, 1207
  tuberculosis in, 289
  tuberculous peritonitis in, 1704
Children, convulsions in, 943
  disseminated gangrene of skin in, 70
  ear troubles in, 66
  floor infection of, 947
  heart disease in, 798
  oxygen inhalation in, 1500
  premature, state of, 73
  primary intestinal tuberculosis in, 1696
  thoracic radioscopy in, 798
  typhoid fever in, 1681
  vicious or degenerate, hypnotism in education of, 1352
China, medical practice in, 290
Chinatown, destroy, 1469
Chinese, exclusion of, 1539
Chittenden, C. C., dental college standard, 9
Chloral as vesicant, 1353
Chloretone, 723
Chloroform and amyl nitrate, 605
  and ether, 1566
  narcosis, remarkable action of electricity in, 1570
  oxygen anesthesia, 1279
  respiratory elimination of, 608
Chlorosis, 349, 1351
Chlumsky's absorbable magnesium button, 1501
Choked disc, 473
Cholecystectomy, 857, 1636
Cholecystitis, acute, complicating gallstone, 1453
  typhoid, 1339, 1423
Cholecysto-colostomy, 808
Cholemia, 500
Chondrodystrophy, fetal, 1626
Chorea, 134, 942
  and rheumatism, 1219
  minor, etiology of, 1499
  psychoses of, 1378
  rheumatic, 478
  treatment of, by immobilization, 607
Choroid, multiple rupture of, 1535
Choroiditis, metastatic, 718
Chown, H. H., presidential address, 711
Christian science, 925
  scientists and reporting disease, 404
Christopher, W. S., pubertal mortality, 681
  W. S., research work, 736
Church, A., trional fatalities, 1483
Chyluria, 870
Cigarette, 988, 1329
Ciliary body, gumma of, 929
Cinchonism and hearing, 1277
Circulation, collateral arterial, after obliteration of arteries of aortic arch, 728
Circumcision, 474
Cirrhosis, ascites in, 412
  atrophic, 818, 878
  hepatic, circulatory disturbances accompanying, 817
  hepatic, report of case, 29
  hepatic, treatment of, 883
  hypertrophic, 881
  mixed, 882
  with pigmentation, 815
Clark, C. F., strabismus operation, 1090
  J. G., peritoneal infection, 360
  J. T., enteroptosis, 995
Clavicle, lesions of vessels in fractures of, 726
Cleft palate, 135, 534, 1065
  [illegible] treatment of [illegible]
  [illegible] abscess, 278
Climate in nervous diseases, 1064
Climatology in treatment of consumption, 383
Clubs, battle with the, 1329
Coal-tar antipyretics in children, 1637
Cobalt chlorid in cyanid poisoning, 412
Cobb, C. M., nose and throat, catarrhal diseases of, 243
  C. M., upper respiratory tract, 851
Cocain, 532
  cause of idiocy in offspring, 1071
  treatment of incontinence of urine by, 1498
  value of, in obstetrics, 1354
Cocainization, intra-arachnoid, in Mexico, 1149
  medullar, 1474
  spinal, 226, 471, 1353
  spinal, by-effects of, 1497
  spinal, cerebrospinal fluid after, 151
  spinal, death from, 339, 459
  spinal, improved, 1733
  spinal, in obstetrics, 1429
  subarachnoid, 943
Cocks, E. L., acne, 1338
Cod-liver oil, treatment of scrofulosis and tuberculosis by, 1073
Colt, H. L., automatic siphon, 1695
Colchicin, value of, in gout, 1073
Cold, treatment of skin disease with, 668
Colitis, membranous, 566
  mucous, in children, 408
  or asylum dysentery, 1352
Colon, carcinomatous stricture of, 665
  obstruction of, 796
Colonies, epileptic, 659
Color blindness, 940
Colorado, climate of, 222
  medical news, 119, 520, 70[illegible] 840, 919, 1121, 1256, 1324, 1540, 1684
Colorado, tuberculosis in, 1629
Colpeurynter in obstetrics, 1454
  massage, 872
Colpoceliotomy, improved, 1709
Coma, diabetic, 1563
Commissions in medicine, 136
Communication, libelous and not privileged, 344
Communications to volunteer physician privileged, 936
Compensation, valvular, in aortic insufficiency, 1199
Complexion and ability, 837
Compression, cerebral, diagnosis of, 1497
  treatment of heart disease by, 873
Conflicting evidence, 1557
Congress, Egyptian medical, 621
  International Sanitary, 1403
  Latin-American, resolutions of, 462
  of Criminal Anthropology, 1199
  of Gynecology and Obstetrics, Nantes, 1126
  of Hypnology and Psychology, 593
  of Life Insurance Examiners, at Amsterdam, International, 1549
  of Obstetrics, at Nantes, 1193
  of Physiology, International, 1046
Conjunctiva, vessels of, 355
Conjunctivitis from caterpillar hairs, 1564
  keratitis and iritis, 134
Connecticut medical news, 205, 270, 520, 649, 840, 1122, 1397, 1615
Connell, F. G., knot within lumen, 952
Constipation, direct Franklinization of rectum for, 462
  spasmodic, 290
Constitution, neuropsychopathic and severing of vas deferens, 850
Consumption cures, scientific investigation of, 1403
  galloping, 289
  in general hospital, 1141
  open-air treatment of, 1341
  prevention of, 476
  sanatorium treatment of, 388
  should state undertake prevention of, 288
Consumptives, isolation of, 1215
  National Jewish Hospital, 137
Contusion, development of affections after, 1500
Contusions, abdominal, 1703
Conus medullaris and cauda equina, 543
Convulsions in children, 943
Copper sulphate, 940
Cordier, A. H., post-operative hemorrhage, 16
  A. H., presidential address, 849
Cornea, dioptic value of, 410
Cortex, cerebral, bilateral relations of, 68
Corwin, R. W., dry heat, 137
Cott, G. F., extirpation of thyroid gland, 185
Cotton, A. C., diabetes in childhood, 638
Cough, 866
Cough, reflex from foreign body in ear, 292
  symptomatic treatment of, 668
Counter prescribing, 1143
Country practice, modern methods in, 1493
County board of health, powers of secretary of, 795
Course, medical, preparation for, 777
  medical society, 1726
Court terminates lengthy malpractice litigation, 936
Courvoisier's law, 1635
Cow's milk as source of tuberculosis, 387
Coxalgia, 283
Craig colony, 1635
Crede's silver therapy, value of, 1356
Cremation, 932, 1348
Creosote in pneumonia, 1346, 1731
Cretinism, 1142
Crime against nature, evidence, 1557
Criminal, recidivist, 1563
Criminals, use for, 846
Criticism, a premature, 836
Croup in pneumonia, 223
Crowley, D. D., surgical treatment of ulcers, 1695
Cryoscopy, 142
Cuba, medical requirements in, 1713
Culices and anopheles, mutual hostility of, 547

Cumston, C. G., abdominal celiotomy, 854
Curare, 75
Curette, indications and contraindications for, in obstetrics, 617
  new adenoid, 1263
Current Medical Literature—See Special Index, p. 1756
Curvature, spinal, 1210, 1346
Cyst-adenoma, ovarian, 139
  thyroid, 1709
Cysticercosis, cerebral, and epilepsy, 481
Cystitis, 134, 864
  in women, 720, 722
Cystocele, 723, 1066
Cytodiagnosis in nervous disease, 124
  of meningitis, 1427
  technique of, 225
Cystorrhaphy after sectio alta, 228
Cystoscopy, hints for, 607
  value of, in tuberculosis of female bladder, 1355
Cysts, multilocular, of kidney, 1269
  ovarian, containing eggs of oxyuris, 231
  pancreatic, 73
Czolgosz case, the, 1207

Dacryocystitis, cause of, 1427
Dahomey, accouchement in, 1049
Dandridge, N. P., gunshot wounds, 1627
Danforth, I. N., biliary calculi, 132
  I. N., Samuel Fuller, 1298
Danyz virus, effect of on rats, 519
Davis, A. E., strabismus, 1167, 1242
  G. G., fundamental branches of medicine, 1058
  N. S., poverty and degeneracy, 1
  N. S., testimonial banquet to, 838, 990, 1050
  T. D., presidential address, 930
  W. B., operation for piles, 137
  W. E. B., biliary calculi and hepatotomy, 1573
  W. E. B., hepatotomy, 1555
  W. E. B., importance of American Medical association, 856
  W. E. B., presidential address, 856
Davison, C., suture of abdominal wall, 933
Deafness, treatment of, 1731
Death, causes of sudden, 135
  certificates after quack treatment, 584
  expectancy of, expressions showing, 1698
  of physician, $15,000 for, 999
  of President McKinley, resolutions on, 792
  rate, birth-rate and general decrease of, 1538
  rates in South American cities, 524
Deaths abroad, 987
  and obituaries—See Index of Departments, p. 1749
Deaver, J. B., accidents and complications of pelvic surgery, 25
  J. B., address in surgery, 135
  J. B., appendiceal fistula, 1266
  J. B., appendicitis, 80
  J. B., appendicitis mortality, 898
Decaying race, a, 33
Deformities in nervous disease, 712
Degeneracy, inherited, 655
  poverty and, 1
Degenerate, education of, 1648
Degeneration, arterial, 1634
Delaware medical news, 205, 1256
DeLee, J. V., colpeurynter, 1484
Delegates to American Medical Association, 1415
Delehanty, E., multiple neuritis, *852*
Delirium, acute, 655
  tremens, 662
Delivery, position of woman during, 613
Delusion, definition of insane, 1539
Delusions in medicine, 1415
  medical, 1563
Dementia, paretic, etiology of, 832
  precox, 723
Dench, E. B., mastoiditis, 247
Dennis, F. S., malignant disease, 1013
Dental caries in pregnancy, 1643
  college standard, the, 9
  degeneracy, preliminary work, 85
  marks of stress periods, 94
Dentist's neck, *934*
Dentists for English Army, 126
Depression in cataract, plea for, 1352
Dermatitis, blastomycetic, relation of syphilis to, 104
Dermatology, German Congress of, 38
  social aspects of, 1002, 1064
Dermoid cysts or embryomas of ovary, 1184
  of testicle, 1422
  primary carcinomatous degeneration of, 479
Descemetitis, 1705
Destruction of organic matter, new method of, 1568
Devitalized-air toxemia, 1420, 1491
Dewey, R., psychosis in cerebral syphilis, 1102
Diabetes, 142
  accidents and, 873
  adrenal, 1722
  alteration of pancreas in, 1284
  and degeneration of the islands of Langerhans, 1563
  and tuberculosis, prognosis of, 1148
  bronzed, recovery from, 231
  cardiovascular system in, 932
  cataract in diagnosis of, 1570
  dietetic treatment of, 932
  in surgery, 143
  mellitus, acid intoxication in, 946
  mellitus, Bright's disease and, 134
  mellitus in childhood, 638
  mellitus simulating gastrointestinal disease, 74, 204
  mellitus, treatment of, 1642
  pancreas in, 1704
  skin lesions in, 143
  treatment of thin, 1070
Diagnosis, 1118
  abdominal, 461
  scientific aids to, 934
Diaphoresis, cure of osteomalacia by, 293
Diaphragm, stab wounds of, 727
Diarrhea, bismuth, subsalicylate in, 1357
  chronic, and gastric juice insufficiency, 353
  infantile, 287
Diazo reaction, clinical value of, 1712
  reaction in consumption, 209
  reaction in typhoid, 1496
  test, the Ehrlich, 223
Dickerson, W. L., abortive treatment of pneumonia, 1240
Dickinson, S. W., delusions in medicine, 1415
Diet and nourishment, 147
  dyspeptics, 934
Dietetic treatment, 144
Dietetics, hydrotherapy and physico-mechanical therapeutics, 738
Digestive processes, Pavlov's latest researches on, 1262
Digitalis, 144, 471
  use and abuse of, 136
Dionin, 1637
Diphtheria, 1637
  aid to prognosis of, *1070*
  antitoxin, 221
  antitoxin, duration of immunity from, 997
  antitoxin, fatal results from, in St. Louis, 1260
  antitoxin, unjustifiable distrust in, 1396
  bacilli, differentiation of, 609
  bacilli in healthy throats, 393
  bacilli, retention of, in laryngeal ventricles, 333
  bacillus, gastric ulcer from, 409
  country physician in epidemic of, 149
  extensive doses of antitoxin in, 226
  in measles, 408
  Neisser's stain in, 1007
  typhoid fever and, 117
  uselessness of isolation in, 542
  value of throat culture, in, 1287
Diplococcus pneumoniæ, intracellular occurrence of, in meningitis, 1675
  semilunaris in tuberculosis, 1217
Diploma mills, 584
Diplomas, medicolegal, 1420
Discussions.—See Index of Departments, p. 1750
Disease foci, apparent and actual, 1283
Diseased animals, food products from, 1715
Disinfection, internal, in infectious diseases, 1711
Disinfection, penny-wise, 1252
Dislocation, prevented from reducing, 1417
Dispensary evil, the, 916
Dispensing of medicine, physician in relation to, 138
Displacement, uterine, muscular atony in, 1420
Disposition, mental and moral, in tuberculous, 1429
District of Columbia medical news, 205, 394, 585, 1122, 1256, 1615
Diuretics and kidney disease, 532
Diverticulum, esophageal, 667
Divorce statistics, 1532
Divulsion, preputial, 1492
"Dr." and "Mr.," English distinction of, 1644
Dock, G., smallpox and vaccination, 1677
Doctor, the systematic, 1212
Doctors, too many, 462
Dog-liver oil, 704
Dogs in war, 268
Dominion registration, 711, 712
Donaldson, J. B., address in medicine, 995
  H. H., innervation of frog's leg, 1625
Donovan, J. A., interstate medical licenses, 852
Double knife in histo-pathology, 1424
Douglas, C., membranous colitis, 566
Downes, A. J., electrothermic hemostasis, 419
Drainage, advantages and disadvantages of, after abdominal operation, 20
Dresses, trailing, 1403
Drink evil, the, 224
Dropsy, essential or toxemic, 869
  essentials of toxemic, 1422
  without albuminuria, 869
Drowning, cryoscopy as test of, 193
Drug habits, 1280, 1494
  therapy, limitations of, 220
Drury, A. G., uterine fibroid in pregnancy, 276
Dry heat in treatment of disease, 137
  method in surgery, 723
Duct, thoracic, 939
Dudley, A. P., ovarian surgery, 357
  W. H., acute mastoiditis, 929
Dunn, J. H., treatment of empyema, 1081
Dunning, L. H., gallstone in common duct, 857
Duodenum, occlusion of, 67
Dupuytren contraction, relations of, to internal contraction, 1568
Dupuytren's contraction, 720, 1136
Dying declaration, why admissible, 344
Dysentery, 1277
  asylum, 1352
  etiology of acute, 1058
  in Philippines, 599
  Ko-Sam as specific for, 1282
  microbe of, 988
  treatment of, with calomel, 1072
  tropical, 870
Dysmenorrhea in nulliparæ, 1552
Dyspepsia, epilepsy and, 1064
Dystrophy, progressive muscular, 146, 929
  progressive muscular, morbid anatomy of, 327

Ear, deformity of, 283
  disease, 866
  disease in life insurance, 1638
  needle in, 228
  severe hemorrhage from, 1075
  troubles in children, 66
Earache, 135
Eastman, J. R., permanent catheterization, 1221
Ebright, G. E., diabetes, 932
Eclampsia, 47
  puerperal, 493, 723
  puerperal, nature and cause of, 646
  question, the, 1498
  treatment of, 414, 1567
Eczema, 283
  etiology of, 1217, 1499
  hyperchlorhydria and, 513
  treatment of, 1507
  x-rays in, 823
Eddy literature, example of, 32
Eddyite prayer, 275
Eddyites, mental soundness of, 1631
Eddyites vs. veterinarians, 204
Edema, laryngeal, 1414
  pulmonary, atropia in, 864
Edgar, J. C., mammary changes of menstruation, 1269
Editorials.—See Index of Departments, 1751
Education, lay medical, 997
  medical, 711, 742, 765, 1003
  medical in Japan, 721
  medical, independence of study and thought in, 768
  medical of to-day, better than past, 778
  physical, 1220
  pre-medical, 1063
  reforms in medical, 996
Eisendrath, D. N., colecystitis and cholangitis complicating gallstone, 1453
  D. N., pulmonary abscess, 1342
Elective system in the medical schools, 769
Electric light sweat baths, 1148
Electricity for constipation, 1194
  high tension, in phthisis, 1213
  in choloform narcosis, 1570
  in gynecology, 723
Electrobougie, the, in Eustachian tube, 471
Electrolysis in skin diseases, 65
Electrophone, the, as aid in deafness, 1266
Elephantiasis, calomel injections *for, 461*
Embolism of central retinal arteries, 1705
Embryomas, ovarian, 1184
Employes, medical attendance for, 1698
Empyema, 49, 285
  air exhaustion of pleural cavity in, 232, 417
  chronic, 1083
  in childhood, 354
  of frontal and ethmoidal sinus, 219
  of frontal sinus, 233
  treatment of, 1081
Endocarditis, malignant, 995
  rheumatic, prophylaxis and treatment of, 1537
  septic, 416
  syphilitic, 152
Endometritis, chronic, tr of, 414
Endoscopy, esophageal an *tric, 1569*
Endothelioma, lachrymal, 1705
Endothelium, role of, in inf mation, 1521
Engelmann, G. J., sterility
  G. J., sterility of American men, 1532
Enteric fever, 664, 665
Enteritis, syphilitic, simul. *melena in new-born, 125*
Enterococcus septicemia, gen ized, 1641
  in tropical dysentery, 870
Enteroptosis, 995
  etiology and signs of, 874
Entropion and trichiasis, 942
Enucleation of eye by new me od, 1520
Enuresis, 1067
  infantile nocturnal, 647
Enzymes, proteolytic, 867
  reversibility of, 1252
Eosinophile cells, significance o in sputum, 229
Eosinophiles, 941
Eosinophilia, 864
Epidemics, associated, 1282
Epidermolysis bullosa hereditari 556
Epididymitis, 1216
Epidural method, the, 150, 79
Epilepsy, 66, 221, 797, 1068
  acid intoxication in, 481
  and dyspepsia, 1064
  and tetany, association of, 871
  autointoxication in, 946
  cured by intercurrent disease, *1074*
  dietetic treatment of, 228
  home management of, 1004
  in Mexico, 800
  influence of diet on course of, 1643
  Jacksonian, 65
  Jacksonian, operative treatment of, 478
  multiple cysticercosis of brain in, 481
  psychic, 64
  surgical treatment of, 727
  traumatic, 146
Epithelioma, malignant vaginal, with intact uterus, 1428
  of penis, 409
  of pharynx, 378
  of upper lip, 1482

Epitheliomata, 1028
  cutaneous, 1420
Epithelium, growth of, 1024
Erysipelas, 478
  and streptococcus, relation between, 667
  etiology of, 873
  serum treatment of, 1074
  treatment of, with serum of erysipelatous patients, 1185
Erythema, Bazin's indurated, 353
Erythemata, infectious, mechanism of, 478
Erythematodes, lupus vulgaris and, 229
Erythrocyte, granular degeneration of, 864
Erythroderma squamosum, case of, 109
Esculapius, discovery of tomb of, 1570
Eshner, A. A., muscular dystrophy, 929
Eskridge, J. T., brain disease, 138
  J. T., rapid respiration, 853
Esophagometer, 137, 720
Esophagoscope, exploratory excision through, 415
Esophagoscopy, retrograde, 414
Esophagotomy, 1280
Esophagus, foreign bodies in, 1554
  foreign body in, 1340
  phlegmon following extirpation of, 414
  traumatic stricture of, 1562
Espinoza, L. G., cremation, 932
Ether anesthesia, 866
  blood changes from, 865
  chloroform and, 1566
  drunk, 947
  to control pain in burns, 1570
  to make criminals talk, 1262
Ethmoiditis, 224
Ethyl bromid and chlorid as surgical anesthetics, 1267
  chlorid, 472
  chlorid as anesthetic, 1267
  chlorid, compressed method of *general anesthesia by*, 1407
Euchinin in malaria, 414
Europhen, 471
stachian catheter, 1339
be, functional disturbances
f, after jaw resection, 293
, G. B., sigmoid disease, 45
H., president's address, 1628
. A., fat necrosis, 1176
W. A., fetal stomach, 1674
ge, P. F., spina bifida, 627
ning dress, hygienic advantages of, 701
dence, medical expert, 64
amination, private, 467
rovision of law as to, upheld, 1417
aminers, dental, revenues for work of, 7, 8
  medical and dental, appointment of state boards of, 5
xanthemata, rheumatic, 416
ophoria, 411
xophthalmic goiter, pathogeny of, 1007
xpert evidence, restriction *of*, in will cases, 597
Experts, medical, testimony of paid, 861
Exsections and resections, 795
Extension, balancing, 1072
Exudates, chronic pelvic, treated with hot air, 872
  treatment of, 1072
Ewing, R. B., surprises in obstetrics, 1057
Eye and ear case, 1335
  contagious diseases of, 929
  disorders, pilocarpin in, 722
  enucleation of, in two minutes, 1520
Eyesight, impairment of, 216

Face and conjunctiva, multiple hemorrhages of, 607
Failure to make physician witness, 60
Fairchild, D. S., brain injury, 629
Faith delusion, another, 1254
Fallopian tube, primary malignant disease of, 71
Fame, such is, 341, 393
Farrell, P. J. H., asthma, 241
Fat in blood, simple test for, 1049
  in cream, validity of law requiring so much, 139
  necrosis, 858
  necrosis from surgical standpoint, 1180
  necrosis in connection with gallstones, 1176
Favill, H. P., chorea, 134
Favus, *x*-ray in, 822
Fear in nervous diseases, 1526
Feather beds and colds, 604
Febrile states, feeding in, 1712
Feces, analysis of, 1216
Fee, division of, 664
  the doctor's, 997
Feeding in febrile states, 1712
Fees, old-fashioned, 1404
Feet, painful affections of, 533
Feld, C. L., commissions in medicine, 136
Felix mas, 1445
Femur, fracture of neck of, 222, 1058
  fractures of, 135
  fractures of neck of, 1651
  fractures of, treated by ambulatory pneumatic splint, 1605
Fenner, E. D., penetrating wound of abdomen, 1555
Ferguson, A. H., median perineal prostatectomy, 1482
  Dr., empyema, 49
  E. D., malposition of gall-bladder, 1338
  G. B., scientific research, 327
Ferric chlorid, therapeutic value of, 1149
Ferrous hydrate in cyanide poisoning, 412
Fertilization, 1490
Fetus, local mercurial treatment of, 203
Fever, bronchotyphoid, 268
  continued malarial, 1494
  hemoglobinuric, 1145
  new continued, 797
  puerperal, diagnosis of, 74
  syphilitic, 33, 63
  undulant, 451
Fevers, diagnosis of acute specific, 869
  management of, 663
Fibers, elastic, significance of, 1217
Fibroid, uterine, 276, 1066
  of Fallopian tube, 1553
Fibroids in pregnancy, 1349
  uterine, when and how to operate on, 1145
Fibroma, mesenteric, 601
Fibromyomata, uterine, 859
Fifth nerve, intracranial resection of, 1534
Filariasis, 451
Filter, Pasteur, Chamberland and Berkefeld, 70
Fingers, phlegmons after amputation of, 1283
Finlay, C. J., yellow fever transmission, 1387
Finney, J. M. T., excision of gall-bladder, 1341
  J. M. T., *foreign body in esophagus*, 1341
First aid to injured, 851
  treatment, specialist allowed his bill for, 1558
Fischer, L., dietetic treatment of typhoid, 1251
Fisher, J. M., ruptured tubal gestation, 1058
Fistula, anal dermoid cyst, 525
  appendiceal, 1266
  branchial, 277
  vesico-vaginal, plastic method of treating, 1499
Fixation abscess in puerperal septicemia, 874
Fletcher, H. M., tongue as breeding place for bacteria, 170
Flexner, S., acute dysentery, 1058
  S., laboratory diagnosis, 1338
Flick, L. F., primary abdominal tuberculosis, 996
Floors, cleansing of, 662, 1161
Florida medical news, 394, 706, 1397, 1684
Fluorescent substances, bactericidal action of, 1570
Fluorin poisoning, chronic, 220
Follis, R. H., gunshot wounds of intestines, 1341
  R. H., strangulated hernia, 1341
Food laws, unjust, 1494
  products from diseased animals, 1715
Foods, artificially prepared, 1094
Foot, two thousand dollars for flesh injury to, 1344
Forceps for simultaneous hemostasis and suture, 726
Ford, F. J., fractures of femur, 135
Forearm, fracture of, 1731
Foreign bodies, 1695
  bodies in abdomen, 1211
  bodies, removal of, from air passages, 1077
Foreign medical news, 37, 122, 208, 273, 337, 396, 459, 523, 589, 651, 709, 844, 922, 987, 1046, 1120, 1192, 1260, 1328, 1401, 1543, 1619
Formaldehyde in milk, 594
Formalin for inoperable carcinoma, 480
  soap for night sweats, 1428
  test for albumin in urine, 1282
Formento, F., tuberculosis, 930
Formic aldehyde in tuberculosis, 720
Formol as preservative, 239
Foster, B., leprosy, 553
"Fourth disease," 942
Fowler's solution, polyneuritis after medicinal use of, 1350
Fracture of inner occipital table, 1412
  spinal, 1200
  to hasten consolidation of, 229
Fractures, 287, 849
  skiagraphy and, 69
France, increase of population in, 1090
  infant mortality in, 124
Franklin, C. P., vaccination shield, 1691
Franklinization of rectum for constipation, 462
Free treatment, can not bind state by promise of, 1272
Freeman, L., acute gangrenous pancreatitis, 852
  L., spina bifida, 853
Freer, O. T., Ingal's operation, 462
  O. T., treatment of laryngitis, 177
Freezing point of blood in prognosis, 1496
Freiberg, A., congenital elevation of scapula, 1055
  A., fetal chondrodystrophy, 1627
French and German schools, 1011
  Congress of Otology and Laryngology, 274
  Medical Association of America, 202
Freund, W. A., carcinoma of uteri, 47
Frick, W., carcinoma of skin, 1590
Friedenwald, H., pathology of retina, 1443
Friedländer's bacillus in cerebral abscess, 1285
Friend, E., ovarian cyst-adenoma, 138
Frontal lobe, *gumma in*, simulating lesion in Rolandic region, 1497
Fry, H. D., indications and contra-indications of curette, 617
  H. D., painful menstruation, 1410
Fuller, E., prostatectomy, 1151
  E., vesical emergency, 1338
Funk's sporidium vaccinale, 582
Functional nervous disease, convalescence from, 1143
Fundamental branches, value of, 770
Fungus colonies in stomach, 946
Funk, B., *address in obstetrics*, 1057
Fusel-oil poisoning, 533
Fussell, M. H., *throat cultures in* diphtheria, 1287
Futcher, T. B., cirrhosis with pigmentation, 815

Gallaher, T. J., edema of larynx, 1414
  T. J., papilloma of larynx, 1414
Gall-bladder, cancer of, 1064
  bladder, excision of, 1341
  bladder, surgical malposition of, 1338
  bladder, the, 68
Gallipolis Hospital, fire at, 1125
Galloway, D. H., anesthetics, 581
Gallstone cases, 48
  diagnosis of, 1633
  in common duct, 857
  intestinal obstruction from, 149
  large, 265
  operations, mortality after, 74
Gallstones, 796, 868, 1067
  acute cholecystitis and cholangitis complicating, 1453
  and pancreatitis, 1187
  fat necrosis in connection with, 1176
  with gangrenous intestines, 1483
Galvanism for uterine hemorrhage, 855
Ganglion, superior *cervical* sympathetic excision of, for glaucoma, 1588
Gangrene, acute mummifying cutaneous, 1710
  complicating pregnancy, 1051
  diabetic, 1732
  intestinal, with gallstones, 1483
  multiple, case of, 445
  of lid, curable, 1070
  of skin in children, 70
  puerperal, of legs, 875
  senile, case of, 1319
Garratt, R. W., ectopic gestation, 48
Gas cysts, 807
Gasserian ganglion operation, 221, 416, 1009, 1689
Gasterin, success of, in therapeutics, 353
Gastrectasis, 720
Gastrectomy, 659
Gastric juice, continuous flow of, 1283
  juice, influence of certain foods on, 1071
  juice insufficiency in chronic diarrhea, 353
  secretions, influence of alcoholic enemata on, 1711
Gastro-enterostomy, 471
  for pyloric carcinoma, 464
  indications for, 933
  vicious circle after, 533
Gastrostomy, 1144
Gelatin hemostasis, 230, 721, 727
  hemostatic action of, 1356
  injections, necessity of antisepsis in, 542
  melting point of nutrient, 1354
  treatment of aneurysm, 1623
  treatment of aneurysms with, 540
  tubes for nerve and tendon suture, 461
General hospitals, consumption in, 1141
  medical news, 36, 122, 208, 273, 336, 458, 522, 589, 651, 709, 843, 921, 986, 1191, 1259, 1327, 1401
  paralysis, clinical and experimental observations on, 224
  paralysis, pathogenesis of, 224
Genu recurvatum, 153
Georgia medical news, 206, 394, 585, 706, 919, 983, 1043, 1188, 1470, 1615
German practitioners' Association, 338
  school reform congress, 126
Gershel, M. A., value of Widal reaction in children, 1695
Gestation, ectopic, 48
  period of, 1060
  ruptured tubal, and the physician, 1058
Getchell, A. C., dangerous hemorrhage from tonsillectomy, 911
Gibb, J. S., edematous laryngitis, 182
Gildersleeve, J. R., presidential address, 1415
Gillette, W. J., Cesarean section, 495
Gilliam, E. M., hip-joint amputation, 113
Ginger amblyopia, 1447
Gingivitis, simple, etiology and treatment, 161
  syphilitic, simulating mercurial stomatitis, 1568
Girlhood, gynecologic and obstetric significance of, 174
Girls, measurements of, 470
Glanders, 1563
  in man, serum treatment of, 71
Glandular surgery, progress in, 1468
Glass ball, implanting of, in orbit, 978
Glaucoma, 940
  excision of superior cervical ganglion in, 1588
  sympathetic resection in, 65, 1339
Globulites, research on, 607
Glove question in surgery, present status of, 1642
Glycosuria, pseudoleukemia and, 1217
God and the doctor, 294, 417
Goelet, A. H., fixation sutures for prolapsed kidney, 1339
Goff, J. R., fibroid of Fallopian tube, 1553
Goiter, exophthalmic, pathogenesis of, 1681
  rhinopharyngeal origin of, 227
  thyroidism in simple, 667
Goldan, S. O., ethyl bromid and chlorid anesthesia, 1267
Gold-beater's skin court-plaster, 723

Goldspohn, A., rubber gloves, 850
  A., salpingostomy, 85
  A., uterine appendages, 489
Gonococcus, general infection with, 583
  the, 1003
Gonorrhea, 943, 1638, 1709, 1730
  chronic, 144
  in boys, 827
  treatment of, with nitric acid, 31
Goodale, J. L., edema of nasal septum, 192
Goodfellow, G., perineal prostatectomy, 1267
Gordon, G., tuberculosis, 714
Gottheil, W. S., actinotherapy, 21
  W. S., adenoma sebaceum, 176
Gould, G. M., address in medicine, 135
  G. M., heterophoria, 1359
Gouley, J. W. S., prostatic obstruction, 1338
Goundou or Anakhre, 1354
Gout and obesity, respiratory conditions and, 997
  colchicin in, 1073
  hyperchlorhydria and, 514
  irregular, hepatic inadequacy and, 70
  new conception and treatment of, 478
Graduates, oversupply of medical, 270
Grafts, epithelial lip, in orbit, 978
Grant, W. W., conservative surgery, 852
Green, E. M., salts of sulpho-carbolic acid, 995
Greene, C. L., acromegaly, 887
  R. H., urethral diseases, 1223
Griffith, J. P. C., typhoid in infancy, 440
Gross, G., intramuscular mercurial injections, 1137
Ground, W. E., cervical and perineal lacerations, 135
Guarnieri's vaccine bodies, 1466
Guiteras, R., prostatectomy vs. prostatotomy, 1156
Gumma in frontal lobe, 1497
Gunshot wound, abdominal, 1555, 1627
  wound of abdomen, 1348
  wounds, 940
  wounds of hip-joint, 1338
  wounds of intestines, 1339
  wounds of kidney, 1141
  wounds of stomach, 1141
Guzman, Dr., school hygiene, 932
Gymnastics on sick-bed, 1072
Gynecological position, a new, 1146
Gynecologist as consultant, 573
Gynecology by general practitioner, 940
  its contribution to general surgery, 550
  progress of, 1004

Hale, A. B., mirror writing, 1380
  A. B., sarcoma of iris, 1628
Hall, J. N., lobar pneumonia, 852
  J. N., outbreak of pyemia, 138
  R. B., pelvic and abdominal tumors in pregnancy, 1410
  R. L., ankylostomiasis, 1464
  W. S., anthropometric data, 1645
Hamilton, A., division of nerve cells, 138
Hand, disinfection of, 291
  right to have examined by physician, 1487
Hanson, R., one-lunged baby, 701
Happel, T. J., enforcement of medical laws, 1301
  T. J., pseudo or modified smallpox, 295
Harison, B. D., state medical laws, 1303
Harrison, J. P., twin conception, 644
  H. D., military dental practice, 164
Havana's healthfulness, 1186
Hawaii, medical requirements in, 1713
Hay fever, 282, 933
  fever, etiology of, 1613
Haycraft's reaction, 1194
Hayd, H. E., retrodisplacements, 855
Head, G. D., leucocyte count, 501
  rest, 1335
Healing, subjective, 67
Health reports, 76, 154, 356, 418, 482, 544, 610, 670, 730, 800, 876, 948, 1012, 1076, 1150, 1220, 1286, 1358, 1430, 1502, 1572, 1644, 1714, 1734
Health, acquirement of nervous, 934
  officer, basis of recovery for services as, 657
  officers, politics and, 1469
  officials, school for, 269
  orders, school trustees must enforce, 467
Heart, beri-beri and the, 1566
  defects in pregnancy, 1148
  disease, 533, 1002, 1004
  disease and surgery, 473
  disease, anesthetics in, 473
  disease, congenital, 1211
  disease in children, 798
  disease, safest anesthetics in, 473
  disease, subacute and chronic, 532
  disease, tonometric examination in, 144
  disease, treatment of, by compression, 873
  diseases, tuberculosis and, 294
  failure from insignificant superficial ulceration, 799
  fatty, 210
  hypertrophy of, 1119
  in chronic deforming rheumatism, 1502
  influence of food on re-establing movements of, 1586
  subacute weakness of, 1498
  suture of, 946, 1728
  tuberculosis of, 47
Heat, animal, 940
  influence of, on tubercle bacilli in milk, 1498
  treatment of pannus by, 1497
Heated term, the, 267
Hedonal, 943
Hegar's sign, 349
Heidingsfeld, M. L., cutaneous cancer, 99
Heidner, G. A., earache, 135
Hektoen, L., chairman's address, 1431
  L., pathological specimens, 1627
Helminthiasis, disturbances from, 669
Hematology, 933
Hematolysis in cancerous fluid, 228
Hematozoa, endoglobular, in reptiles, 148
Hematuria of pregnancy, 1708
Hemianopsia in arteriosclerosis with nephritis, 228
Hemichorea, preparalytic, 607
Hemiplegia, treatment of, 1281
Hemoglobinuria, malarial, 1424
Hemolymph glands, 866, 1706
Hemolysis, 470
Hemophilia, adrenal extract for, 203
  antenatal treatment of, 503
  neonatorum, 603
Hemoptysis, tracheal, 728
Hemorrhage, cerebral, symptomatology of, 908
  dangerous, after removal of tonsils and adenoids, 911
  gelatin in, 721
  into skin and suprarenal capsule, 352
  leucocyte counts in, 501
  post-operative, 16
  postpartum, 1494
  uterine, galvanism for, 855
Hemorrhages, pulmonary, 1140
Hemorrhoids, 1278, 1636
  improved pessary for, 230
  new method for removal of, 46
  position treatment of, 1199
  simple operation for, 1658
Hendrickson, H. W., tubal pregnancy, 581
  W. F., teratoma of testicle, 4
  W. F., tuberculosis of heart, 47
Hepatic inadequacy, 70
Hepatotomy, 857, 1573
  for biliary obstruction, 1555
Heredity and acquired characters, 1494
  in tuberculosis, 388, 1141
Hernia, 1633
  autoplastic suture in, 1162
  epigastrica, 1703
  extraperitoneal radical treatment of, 1733
  femoral, radical cure of, 1281
  incarcerated, in lateral abdominal wall, 1428
  inguinal, in children, 869
  injection treatment for, 1280
  ovarian, 1555
  post-operative, improved incision for prevention of, 1565
  radical operations for, 850
  strangulated, 1064, 1730
  strangulated, in infants, 1141
  strangulated, with gangrene, 1341
  traumatic diaphragmatic, 229
  umbilical, 408, 1729
Hernia, ventral, remarks on, 1480
  vesical, 64
Heroin, 1492
Herpes zoster, latest research on, 541
  zoster ophthalmicus, 1667
Hershey, E. P., function of appendix, 852
Hersman, C. C., effects of typhoid on nervous system, 1058
Heterophoria, non-surgical treatment of, 1359
  operative treatment of, 1361
Higgins, F. W., blood examination, 1337
High frequency currents, action of, on tubercular toxins, 542
Hill, E. C., mother's milk, 137
  R. C., hemorrhage from pampiniform plexus, 199
Hip, congenital dislocation of, 868, 1483
  injury, $15,000 for, 1344
  joint amputation with Wyeth pins, 113
  joint, congenital luxation of, 478, 669
  joint disease, 661
  joint, gunshot wounds of, 1338
  joint, heteroplastic operation for congenital dislocation of, 1283
Hippocratic oath, the, 75
History of medicine, study of, 453, 1074, 1726
Hitz, H. B., syphilis of nose and throat, 136
Hodgson, H. A., Bright's disease and diabetes mellitus, 134
Holmes, B., seminar method, 741
  B., surgery of kidney, 172
  E. W., vermiform appendix, 997
Holt, O. P., cardiac specimens, 1627
Holton, H. D., diagnosis, 934
Homeopathy, Intercollegiate Committee of American Institute of, 762
Hopkins, T. N., new operating table, 1696
Horsehair, danger of anthrax from, 411
Horwitz, O., Bottini operation, 1056
Hospital abuses, 1421
  management, 114
Hospitals, floating, 724
Hot air, 599
  air treatment in pelvic exudates, 872
  water injections, postero-ocular, 940
Hotz, F. C., ocular paresis, 1627
Howitt, H., ovarian-tension pain 714
Hubbell, A. A., retroflexion of iris 1289
Humiston, W. H., streptococcus infection following labor, 619
  W. H., tubo-abdominal pregnancy, 853
Hunkin, S. J., tubercular bone cavities, 1695
Huntington, T. W., x-ray dermatitis, 792
Hutchinson, E. B., trional fatalities, 1483
Hydatid cyst simulating acute pleuro-pneumonia, 873
  cysts in kidney, 871
  disease of breast, 865
  fremitus in ascites, 1712
Hydatids, uterine, 1066
Hyde, J. W., cervix uteri, 856
Hydrocele, inversion of tunica vaginalis for, 286
Hydrocephalus, 1208
  chronic, 869
Hydrochloric acid determination, 348
Hydrogen dioxid, precautions needed with, 210
  peroxid in cyanid poisoning, 412
Hydrophobia, 282
  in Ohio, 1442
  malaria simulating, 1049
Hydrops, intermittent, 1347
Hydrorrhea in pregnancy, 1355
  nasal, pathogenesis and treatment of, 71
Hydrotherapy, 349, 738
  in neurasthenia, 1067
  without water or cold, 9
Hyperacidity, gastric, 1494
Hyperchlorhydria, relations of, to bilious attacks, 512
Hyperidrosis, x-rays in, 822
Hyperostosis, cranial, 1217
Hypertensions, the three, 342
Hypertrichosis, x-ray treatment of, 1499
Hypnosis in therapeutics, 291
Hypnotics, some newer, 347
Hypnotism in education, 1353
Hypochondriasis, 940
Hypodermic injection, influence of concentration and number of sites on, 1254
Hypodermoclysis, 1701
Hypophosphites, negative role in, 1353
Hysterectomies, immediate recovery following vaginal, abdominal and supravaginal, 1269
Hysterectomy, vaginal, 858
Hysteria, 409, 721, 929, 1280
  from needle in ear, 228
  pathology of, 412
  traumatic, 660

Ichthyosis, compression in treatment of, 66
Idaho medical news, 1470
Identification, personal, army system of, 1420
Idiocy, cocain as cause of, 1071
  family amaurotic, 799
Idiot children, food for, 290
Igazol in tuberculosis, 415
Ileus, atropin in, 269, 668
Ill, E. J., pancreatitis and fat necrosis, 858
Illinois medical news, 34, 119, 206, 270, 334, 394, 456, 520, 586, 649, 706, 787, 840, 919, 983, 1043, 1122, 1188, 1256, 1324, 1397, 1470, 1540, 1615, 1684
  Medical Practice Act, 32
Imbecility, non-expert opinion as to, 999
Immunity, acquired, can it be transmitted by heredity, 203
  antitoxic and bactericidal, 516
Immunization product, a crystalline, 480
Immunized animals, behavior of bacteria in, 1354
Impostors among animals, 333
Incisors, apposition of, 1005
Inconsistency, a statutory, 269
Incontinence, urinary, treated by epidural injection of cocain, 1497
Incudectomy, 145, 621, 929
Indiana medical news, 119, 335, 456, 587, 650, 707, 787, 984, 1043, 1122, 1188, 1256, 1324, 1397, 1471, 1616, 1685
  Medical Practice Act, 1219
Indigestion and sin, 1540
  temporary, and informal consultation, 1204
Inebriety, 407
Infancy, blood in, 1636
Infant feeding, 221, 718
  food, buttermilk as, 1501
  mortality in summer, cause of, 542
Infants, gastroenteric infection in, 472
  pernicious anemia in, 942
  strangulated hernia in, 1141
Infection, 1491
Infections, pathogenesis of general, 1723
Infectious diseases of mouth, 97
Inflammation, pneumococcal mucous, 865
Influenza, 660, 1421
  aural complications in, 928
  clinical diagnosis of, 519
  ocular complications of, 224
Ingals, E. F., empyema of frontal sinus, 233
  H. A., hepatic cirrhosis, 29
Ingraham, H. D., uterine fibromyomata, 859
Ingram, R., digitalis, 136
Inguinal canal, operation on, 536
Inhalations, therapeutic, 152
Inhibition, cardiac, 1705
Injections, cold rectal, in typhoid, 666
  hypodermic, 1279
  intracranial, 1002
Injunction, board of health not controlled by, 716
Injuries, feigned and real, 1295
  $15,000 too much for, 597
  showing extent of, 597
Injury, aggravation of, by bad treatment, 1417
  case, admissible evidence of physician in, 1557
  mental, from wilful wrong, 861
  permanent, physician's opinion evidence of, 1557
Innervation of frog's leg, law of, 1625
Innominate artery, ligature of, 1211

noculation, antityphoid, 944
sane asylums, partisan politics and, 1682
  bed treatment of, 934
  commitment of, 116, 601
  gastric digestion in, 1429
  hospital, tendencies in, 1211
  ocular disturbances or deformities in, 1147
  schools for, 224
  surgery in, 470
Insanity, 220, 537
  adolescent, 665
  cardiac disease and, 408
  classification of, 943
  pelvic diseases and, 349, 409
  proof of, 530, 936
  prophylaxis of, 287
  puerperal, 66
  toxic action in pathogenesis of, 1352
  treatment of, in general hospital, 601
Insects as living culture medium, 1283
Instruments, sterilization and care of, 473
Internal jugular vein, ligation of, 1339
Intestinal obstruction, acute, 1492
Internat, the monument of the, 461
Intestine, exclusion of, 1701
  large, absorption by, 669
  removal of great lengths of, 1565
  tuberculous strictures of, 1218
Intestines, abnormal position of, 1215
  atrophy of, 608
  autosterilization of, 872
  gunshot wounds of, 1339, 1341
  infection of bladder from, 1121
  small, congenital atresia of, 414
  surgery of, 1703
Intramuscular mercurial injections in the treatment of syphilis, 1137
Intranasal operations, 1350
Intrasplenic injections in chronic malaria, 543
Intrauterine bag for delivery with deformed pelvis, 479
  rubber bag, stimulation of labor by, 1148
Intubation, atresia of larynx after, 79
  simplified, 1284
  tracheotomy and disturbances after, 1428
Intussusception in children, treatment of, 868
  what is it, 868
Iodids, action of, on heart and circulation, 1638
Iodin in malaria, 1071
Iodipin test for gastric motility, 669
Iodism simulating mumps, 1570
Iodo-hydrargyrum-cacodylate in syphilis, 540
Iodophilia, 1337
Ions, electrolytic association of inorganic salts into, 267
  in physiologic and other processes, 391
  influence of valency and electric charges of, on effects of, 1411
Iowa medical news, 206, 271, 395, 587, 707, 840, 919, 1043, 1188, 1257, 1325, 1397, 1471, 1541, 1616
Ireland, longevity in, 1683
Iridectomy, extraction of cataract without, 1513
Iris, sarcoma of, 1628
  total retroflexion of, 1289
Iron, dosage of, in blood, 727
  in mother's milk, 799
  subcutaneous injections of, 542
  waters, preservation of natural, 230
Irrigation, rectal, reduction of temperature by, 1262
  uterine, 1005
Irrigator, prostatic dilating, 462
Islands of Langerhans, 1563

Jack, G. N., asthma, 1338
Jackson, C., carcinoma of naso-*pharynx*, 371
  C. M., relational anatomy, 731
  E., corneal diseases in smallpox, 1696
  E., retinal lesions in nephritis, 852
  E., treatment of strabismus other than operative, 1087
Japan, medical education in, 721
Jayne, W. A., uterine carcinoma, 137
Jellinek, E. O., diabetes, 932
Jepson, S. L., notes on smallpox, 1608
  Wm., congenital cystic kidney, 825
Jews, tuberculosis among, 1348
Johnson, J. L., varicose veins, 933
  J. T., abortion, 1555
Joint disease, tubercular, 219
Joints, chronic diseases of, 1212
  perimetry of, 230
Jonas, A. F., first aid, 851
Jones, F. A., cardiac lesions in negro, 1581
  J. R., medical education, 711, 742
  O. M., address in surgery, 714
  W. A., multiple neuritis, 1529
Journal of the Association of Military Surgeons, 1130
  of Medical Research, the, 584
  of Mental Pathology, 122
Jump, H. D., immunity from diphtheria antitoxin, 997

Kahlo, G. D., dyspeptic's diet, 934
Kansas law and medical pretenders, 268
  medical news, 35, 335, 587, 788, 919, 1188, 1325, 1616, 1685
Keen, W. W., ureteral calculus, 567
Kelley, S. W., advancement of surgical pediatrics, 155
Kelly, A. O. J., malignant endocarditis, 995
  H. A., cystitis, 134
  W. D., examination of blood, 500
Kengla, L. A., ankylostomiasis, 1694
Kennedy, G. A., mild smallpox, 712
Kentucky medical news, 35, 120, 456, 650, 841, 1044, 1189, 1398, 1541, 1616
  smallpox in, 1334
Kickland, W. A., typhoid fever, 137
Kidney, congenital polycystic, 71, 825
  contribution to surgery of, 172
  defective development of, in congenital lues, 1284
  fixation sutures for prolapsed, 1339
  gunshot wounds of, 1141
  hydatids in, 871
  movable, 349, 939, 941, 995
  movable, symptoms and treatment of, 1707
  multilocular cysts of, 1269
  pathogenesis of floating, 71
  rupture of, 1055
  stone diagnosis, 1140
  treatment of contusion of, 726
Kidneys, function test of, in abdominal surgery, 1356
  functional test of, 1427
Kiernan, J. G., *locomotor ataxia*, 1059
  J. G., periods of stress, 94
Klebs-Loeffler bacillus, the, 1419
Kleptomania, *opinions of experts*, 1344
Knee, intermittent hydrops of, 799
  osteitis of, 1266
  symptoms from foot disorders, 350
  three hundred dollars for injury to, 1487
  tuberculosis of, 1072
Knot within the lumen, 952
Koch's address, 266, 381, 591
  address and newspapers, 331
Kolischer, G., anterior vertex presentation, 1484
  G., skiagraphic diagnosis, 1228
Ko-Sam as specific for dysentery, 1282
Kraske operation, 602
Kretoszyner, M., Bottini operation, 1267
Kreutzmann, H. J., transverse suprapubic division of skin, 1695
Krouse, L. J., anal pockets, 46
Krusen, W., *perforation of uterus*, 1057
Kugler, H., verrucæ of buccal mucosa, 465
Kuh, S., mirror writing, 1380

Labor, stimulation of, by intrauterine rubber bag, 1148
Laboratory diagnosis, 1338
  use and abuse of, 778
Lacerations, cervical and perineal, 135
Lachrymal duct, soluble bougies for treating the, 1587
Lachrymal duct, strictures of, 946
Lactation atrophy of uterus, practical significance of, 1711
LaGarde, L. A., gunshot wounds of hip-joint, 1338
La grippe, blood pressure in treatment of, 1183
  elimination of urea in sputa in, 354
  typical signs of, 480
Lamp for photography on, new principle, 1073
Landis, J. H., villous polypus of rectum, 277
Landry's paralysis of descending type, 33
Lane lectures, 939, 1142, 1207, 1276, 1348, 1420, 1491
Langdon, F. W., syphilis of nervous system, 1105
Lange, J. C., tapping the chest, 996
LaPlace, E., appendicitis, 949
  E., rare complications in appendicitis, 1056
Laryngitis, edematous, 182
  treatment of, 177, 340
  tubercular, treatment of, 389, 1281
  tuberculous, 863
Laryngology, study of, 158
Larynx, acute inflammatory edema and abscess of, 797
  atresia of, after intubation, 798
  papilloma of, 326
  spasmodic affections of, 1554
Latham, V. A., literature of pulp, 86
Lauterbach, L. J., the doctor's fee, 997
Lavage, gastric, for nervous vomiting, 1498
Laws, enforcement of medical, 1301, 1321
  medical, of Canada and provinces, 1318
  state medical, difficulties of enforcing, 1303
  synopsis of state medical practice, 1304
Lead colic, cure of, by epidural cocainization, 1641
  poisoning in pottery glazing, 845
Leavitt, F., smallpox and chickenpox, 305
LeBoutillier, W. G., leucocyte count in fractures, 1338
Lecithin in tuberculosis, 1283
  in therapeutics, 1711
Le Count, E. R., endothelium in inflammation, 1521
Lecture, didactic, teaching by, 771
Lederman, M. D., thrombosis of lateral sinus, 1339
Lee, B., presidential address, 930
Lefevre, E., arteriosclerosis, 1337
Leg, $8,000 for loss of, 1344
  $1,000 for breaking, 716
Legislation, hygienic, 1562
  medical, encouraging outlook in, 118
  uniform medical, 274
Legs, $15,000 for loss of, 529
Leiomyomata, malignant, 1010
Leiter's apparatus for ear, modified by Amberg, 323
Lenses, bifocal, 661
Leonard, C. L., calculous nephritis and ureteritis, 1451
Leper sanitarium, international, 126
Leprosy, case of, 553
  contagiousness of, 461
  control of, 1041
  curability of, 342
  mosquitoes and, 459, 1120
Leroy, L., sanitary features of smallpox, 299
Leucocyte count in fractures, 1338
  counts in hemorrhage, 501
Leucocytes, 796
  arrest of poisons by, 540
Leucocytosis in outbreak of sweat, 1072
Leucorrhea, yeast in treatment of, 73
Leusman, F. A., prostatic dilating irrigator, 463
Levison, C. G., prostatic calculus, 1268
Lewis, E. S., laceration of cervix, 1409
Libbey, J. A., licensing, 11
License a "right," 657
Licenses, interstate medical, 852
Licensing, by examination and by diploma, 11
Lids, curable gangrene of, 1070
Life insurance, appendicitis in, 1351
  insurance, ear disease in, 1638
Life insurance, environments of applicants in, 223
  insurance, renal function and, 532
  insurance risks, 1638
  insurance, tuberculosis and, 719
  work, what does the practice of medicine *offer as*, 774
Ligature, elastic, in intestinal surgery, 933
Ligatures, instrumental applica*tion of*, 153
Light treatment, 797, 940
Lime in tuberculosis, 1199
Lipomata, coincidence of symmetrical, with general paralysis, 227
Lippincott, J. A., chairman's address, 977
Lips, extragenital syphilitic infec*tion of*, 231
Lithiasis of submaxillary glands, 1147
  phimosis as cause of, 353
Lithotomy operations, indications for, 1428
  suprapubic, 943
Liver abscess, 278
  ascites in syphilitic cirrhoses of, 1056
  etiology and classification of cirrhoses of, 877
  floating, 850
  functional test of, 1499, 1569
  hemostasis, 19
  lymphatics, 68
Local option territory, liability of physician in, 1630
Localization, separate, 1563
Lockjaw, epidemic of, 124
Locomotor ataxia, forensic eye aspect of, 1059
Lodge practice, 75
Loeb, J., ions, 1411
  L., growth of epithelium, 1024
Lombroso on royal crania, 1255
London letter, 123, 208, 338, 523, 589, 845, 923, 1046, 1192, 1328, 1402, 1473, 1619, 1688
  Tuberculosis Congress, impressions of, 590
Long, J. W., foreign bodies in esophagus, 1554
Longevity, bodily mutilations and, 534
  in Ireland, 1683
Looking back, 1042
Loughran, F. W., school inspection, 1267
  F. W., vaccination, 1554
Louisiana medical news, 35, 456, 707, 1257, 1398, 1616
Lumbar puncture, pathologic changes from, 873
  puncture, sacral instead of, for children, 1732
Lumen, not within, in intestinal surgery, 952
Lung, increase of connective tissue in, 46
  operative treatment of, 1501
  surgery of, 1643
  surgery of, in children, 541
  surgery, radiography in, 726
Lungs, bilateral simultaneous auscultation of, 1642
  direct medicinal injections in, 990
  parasitic sclerosis of, 1353
  penetration of bacteria in, 1285
  resection of, 415
  surgery of, 1421
  surgical treatment of, 1733
  triple, 799
Lupus erythematosus, *x*-rays in, 823
  vulgaris, 555
  vulgaris, *x*-rays in, 823, 1143
  vulgaris, relation of, and erythematodes, 229
Lymphatic glands, role of, in infections, 150
Lymphemia, acute malarial, 465
Lymphoma vs. pseudo-leukemia, 1427
Lysol intoxication, 1149
Lytle, A. T., typhoid cholecystitis, 1339

MacFarland, J. W., torsion of arteries, 1056
Mackenzie, J. N., study of laryngology, 158
McArthur, L. L., autoplastic suture in hernia, 1162
McAuliffe, G. B., Eustachian catheter, 1339
McBride, J. H., neurasthenia, 135
McCosh, A. J., spinal surgery, 569, 621
McDonnell, A. J., splenic anemia, 712

McFarland, J., antivenene, 1597
J., pericarditis, 1507
McGahan, C. F., tubercular pericarditis, 1580
McGraw, T. A., *elastic ligature*, 933
McKenty, J., cerebrospinal meningitis, 711
McKenzie, B. E., deformities in nervous diseases, 712
McKinley case, *English comment* on, 918
memorial, a, 988
See President, p. 1744
McKinnon, A., address, 48
McMurtry, L. S., surgery of *spleen*, 856
McRae, F. W., suprapubic prostatectomy, 148
Macula, new-formed physiologic, 1280
Madden, J., education of degen*erate*, 1648
Magnet for removing tube from larynx, 205
Maine medical news, 120, 707, 984, 1471
Makuen, G. H., speech in backward children, 975
G. H., unusual tertiary manifestations, 438
Malaria, 451, 602, 864, 1006, 1277, 1564
chronic, intrasplenic injections in, 543
euchinin in prophylaxis of, 414
expedition, departure of fifth, 123
gangrene in, 681
immunity in, 680
in Central America, 601
mechanical protection against, 414
parasite of, 408
recent Italian investigations on, 201
report of Italian Society for Study of, 414
reporting of, 743
simulating hydrophobia, 1049
some phages of, 678
treatment of, with iodin, 1071
Male sexual disorders, urine examination in, 286
Malformations, congenital osseous, 966
Malignancy, 864
Malignant disease, Roentgen rays in, 1015
disease, treatment of, 1013
growths, symposium on, 1266
Malpractice case, requirements of, 530
liability for negligence in amputation, 1487
sufficient evidence of, 61
suits, insurance against, 1613
Malta fever, 867
Mamma, survivals after amputation of, 1732
Manchester milk clauses, administration of, 477
Mann, A., typhoid fever, 137
M. D., cancer of rectum, 23
Mantegazza's 40th anniversary, 127
Marcy, H. O., gynecology, 550
Marple, W., resection of cervical sympathetic in glaucoma, 1339
Marriage, medical examination to be requisite to, 997
Marriages—See Index of Departments, p. 1752
Married women, liability of, for doctors' bills, 467
Marshall, J. S., military dental practice, 165
Martin, F. H., surgical treatment of retroversion of uterus, 426
T. C., removal of hemorrhoids, 46
T. C., valvular obstipation, 933
Maryland medical news, 35, 120, 206, 271, 395, 457, 520, 587, 650, 707, 788, 841, 920, 984, 1044, 1123, 1189, 1257, 1325, 1398, 1541, 1616, 1685
Mason, R. D., new pile clamp, 1262
Massachusetts, cancer in, 347
medical news, 120, 271, 335, 456, 650, 841, 984, 1123, 1189, 1325, 1471, 1617
vivisection in politics in, 1254
Massage, 1728
gastric, 1701
of drumhead, vibratory, 1349
pelvic, 144
pneumatic aural, 575
Neuralgia, post-influenzal, 350
Mast-cells, role of, in acute and chronic infections, 1596
Mastoid auscultation, 224
suppurations, opening of petrous antrum for, 1354
suppuration, operative interference for, 1340
Mastoiditis, 474, 664, 1207
acute, 320
diagnosis and treatment of, 247
early operation in, 929
influenzal, 1143
Moyer, H. N., neurasthenia, 1656
Maternal impressions, 407
Matthews, W. P., ovarian hernia, 1555
Mayer, E., spasmodic affections of larynx, 1554
E. E., hysteria, 929
E. E., localized amnesia, 1601
J., intrauterine amputations, 547
Mayo, W. J., carcinoma of cecum, 1019
W. J., gastroenterostomy, 933
Mears, G. V., conjunctivitis, keratitis and iritis, 134
Measles and variola, blood differentiation of, 1353
diphtheria in, 408
early sign of, 907
Meat supplies, control of, 382
Mediastinum, dermoid cysts of, 1723
Medical colleges, art of endowing, 200
defense, 49, 711
defense, *report on*, 712
education, 1563
education and its recognition by rich, 32
examining board, Virginia, 1415
examinations, occurrences at, 999
examiner a general agent, 1487
examiner and statements as to health, 1273
examiners' knowledge, 404
graduates, over-supply of, 399, 459
laws, 948, 1286
laws, enforcement of, 1544
missions, 399
organization and the public, 980
politician and medical statesman, 1467
preparation, right to make and use, 280
profession organizing, 392
services, data required to recover for, 716
standard, lowered German, 38
treatment, not required to refund cost of, 861
weekly criticised, 1051
Medication, cacodylic, 871
Medicine from business stand*point*, 535
fundamental branches of, 1058
mental, 222
practice of, police power to regulate, 344
Medicolegal—See Index of De*partments*, p. 1753
Medulla and pons, syringomyelia of, 1147
Melancholia, treatment of, 725
Melena, syphilitic enteritis simulating, 1255
Melvin, J. T., dispensing of medicine, 138
Membership in American Medical Association, the way to, 232
Meniere's disease, 602, 1073
Meningitis, bacteriology of cer*ebrospinal*, 1008
cerebrospinal, intracellular occurrence of pneumococcus in, 1675
cerebrospinal, metastatic ophthalmia in, 1285
cytodiagnosis of, 1427
epidemic cerebrospinal, 711
epidemic, cerebrospinal, spread of, 1469
grippal cerebrospinal, 71
otogenous, 1350
phlegmonous, 1500
tardy, after skull injury, 1569
tuberculous, diagnosis of, 1496
Meningococcus, transmission of, 726
Menstruation, mammary changes of, 1269
painful, surgical treatment of, 1410
Mental disease, dispensary treatment of, 723
disease, stadia of, 1563
diseases, classification of, 1227
impression and malignant disease, 1348
suffering, allowance for, 468
Mercury, 1006
Mercury, air colpeurynter, 872
intraspinal injection of, in syphilis, 1568
Merritt, G. W., retinal detachment, 1202
Mesenteric vessels, post-operative thrombosis of, 1565
Mesentery, vessels of, 608
Metallic sound, improved method *of attaching to filiform bou*gie, 1263
Metals, influence of, on blood, 1570
Metcalf, W. B., fractures of femur, 1605
Methemoglobin, 870
Methyl alcohol blindness, 1447
Methylene blue in ulcero-membranous stomatitis, 1640
blue, *treatment of ozena by*, 1353
Mexico, epilepsy in, 800
rarity of appendicitis in, 1357
Mexico, requirements for practice in, 1713
Micellæ, importance of, in cell chemistry, 725
Michigan medical news, 35, 271 395, 456, 521, 650, 708, 788, 920, 984, 1044, 1123, 1189, 1257, 1325, 1471, 1541, 1617, 1685
medical registration in, 1492
Middle ear disease, intracranial complication of, 73
ear, uric acid inflammation of, 514
Midwifery, points in practical, 1008
Migraine, 1492
Military dental practice, 164, 165
Milk and serum, biologic relations of, 1428
formaldehyd in, 594
infection, 385
iron in mother's, 799
sugar, 1493
supply in New York, 1042
undiluted, as infant food, 393
Minnesota medical news, 35, 271, 335, 457, 521, 587, 708, 841, 920, 984, 1123, 1189, 1257, 1325, 1398, 1471, 1617
Minute pathogenic agents, 1610
Mirror writing and the inverted image, 1380
writing, practical application of, 655
Missouri medical news, 35, 272, 335, 395, 521, 651, 708, 841, 985, 1124, 1258, 1325, 1398, 1471, 1617, 1685
Misrepresentation in procuring license, 129
Mitchell, A. T., changes in facial bones from adenoids, 246
A. T., eye enucleation, 1520
S. Weir, 122
Mitral insufficiency in pregnancy, 284
Mole, diagnosis of vesicular, 1148
Monoma, the, 477
Montana medical news, 395, 841, 985, 1189, 1326, 1686
medical practice acts, 610
Montgomery, D. W., epithelioma, 1482
E. E., uterine myomata, 196
Moore-Corradi method, 64, 143
Moran, J. F., puerperal sepsis, 615
Morphinism, treatment of relapses after, 1292
Morison's operation, 1193
Morphia habit, physiologic cure of, 606
Morphin, idiosyncrasy to, in aged, 525
in heart troubles and uremia, 1732
Morris, R. T., appendicitis, 1480
R. T., suspension of, 855
Morrow, H., sarcoma, 1136
Morse, J. L., laboratory diagnosis of typhoid, 441
Mortality, pubertal, unbalanced *physical development* and, 691
Mosquito, leprosy and, 1120
Mosquitoes and disease, 868
and malaria, simultaneous appearance of, 1147
conveyance of, 453
proofs of transmission of yellow fever by, 1149
the war on, 518
yellow fever and, 115
Mother's milk, 137
Moulton, H., methyl alcohol blindness, 1447
Mound-builders, nasal septums of, 409
Mountain fever, 852
Mouth as index to disease, 474
breathing, 283
infectious diseases of, 97
the, in infancy, 1347
Movements, inherited associated, 481
Moyer, H. N., neurasthenia, 1656
H. N., psychoses of chorea, 1378
Mucin in disease of mucous membrane, 1214
Mucous membranes, mucin in disease of, 1214
patches, non-syphilitic, 1005
Muir, W. S., infectious pneumonia, 711
Mules' operation, 1369
Multiple neuritis, ten cases of infectious, 1529
Mumps, acute iodism simulating, 1570
Munn, W. P., presidential address, 138
Munson, E. L., army canteen, 930
Murphy, A. D., hay fever, 933
Muscle tonus, physiology and pathology of, 655
Muscroft, C. S., hepatic cirrhosis, 29
Musser, J. H., hepatic cirrhosis, 883
Mutilations, bodily, and longevity, 532
Myalgia, 1010
Myasthenia gravis, 480
Myelitis, syphilitic, treatment of, by intraspinal injection of mercury, 1568
Myeloma, spinal, 1063
Myiosis *intestinalis in man*, 1412
Myocarditis, diagnosis of, 1184
Myocardium, segmentation and fragmentation of, 139
Myoidema, 608
Myomata, uterine, how shall we deal with, 196
Myomectomies, 662
Myomectomy in pregnancy, 146
pregnancy after, 600
Myositis, gonorrheal, 146
hemorrhagic, in typhoid, 1193
progressive muscular ossifying, 1285
Myxasthenia, 1708

Nail disease, treatment of, 1422
Nails, inflammatory affections of, 1422
parasitic disease of, 1422
trophic affections of, 1422
Nammack, C. E., arteriosclerosis, 1337
Naphthalene, poisonous properties of, 870
Narcosis, abdominal operation *without*, 480
medullary, 220
nitrous oxid and ether, 1420
Nasal cavities, accessory, spraying and insufflating, 113
cavities, asymmetry of, 1423
deformity, congenital, 76
douche cup, 527
septum, acute edema of, 192
septum, the, 1351
Nasopharynx, *primary carcinoma* of, 371
Natal, S. A., immunity from tuberculosis, 477
Nation's doctors, annual convention of, 1404
name, misuse of, 34
Nauheim treatment, the, 64
Naval actions, treatment of wounded in, 724
Nebraska medical news, 120, 272, 395, 708, 842, 1258, 1399, 1472, 1686
Necrosis, inexplicable intestinal, 73
Needle in rectal wall, 1724
Neglect of patient, liability for, 405
Negligence of hospital surgeon, city not liable for, 60
Negro, cardiac lesions in, 1581
Neisser's stain in diphtheria, 1007
test for diphtheria bacilli, 1640
Neoplasms, intracranial, 1490
malignant, 722, 1277
malignant, serum therapy in etiology of, 609
Nephrectomy, indications for, in renal tuberculosis, 724
Nephritis, acute, 145
and ureteritis, calculous, indi*cations for operations in*, 1451
chronic, atrophy of stomach mucosa in, 1357
diet in, 1037

Nephritis, hematogenic pyramidal, 540
  malarial, 1142
  retinal lesions of interstitial, 852
Nephrolithiasis, 1142
  in spinal disease, 1357
Nephropexy, 221, 1703
  new method of performing, 1058
Nephrorrhaphy, 64, 1277
Nephroureterectomy, 1555
Nerve cells, division of, 138
  nostrums and their dangers, 846
Nervous diseases, 470
  diseases, diagnosis in, 1562
  diseases, surgery in, 145
  system, prognosis in disease of, 1495
  system, teaching of anatomy of, 1063
Neuralgia, post-influenzal, 350
  rectal, 1636
Neurasthenia, 135, 348, 1006, 1190, 1656
  arterial tension in, 330
  hydrotherapy in, 1067
  psychology of, 1349
  sexual, 285
  surgery in its relations to, 1056
  West Point, 65
Neurectomy, buccal—antral route in, 532
Neuritis, alcoholic, 454
  multiple, causation of, 1625
  multiple, in children, 852
  occupation, 1569
  peripheral, in beer drinkers, 1213
  prognosis in, 929
  sciatic, caused by mercurial injections, 1070
Neurofibromatosis, 1709
Neuroglia, proliferation of, 1216
Neuro-retinitis, gouty, recovery from, 1586
Neuroses, masturbational, 285
  nasal therapy of, 874
  oral, 67
  so-called, cardiac, 330
  traumatic, 65, 135, 535, 1605
Neurosis, cardiac, 1357
Nevus linearis, 1143
  pigmentosus, multiple, 553
Newborn, adenoma of both adrenals, in, 1493
  bacterial flora in mouth of, 479
  cranial injuries in, 471
  hemorrhagic disease of, 603
  osteomyelitis in, 1567
  pyocyaneus infection of, 839
  respiratory failure in, 1211
  syphilitic enteritis in, 1255
New disease, 1349
  England, birthrate in, 331
  Hampshire medical news, 842, 1258
  instruments, some, 1335
  Jersey, medical news, 206, 272 457 521, 587, 651, 842, 920, 1124, 1326, 1399, 1472, 1686
  medicines tested, 127
  Mexico medical news, 121, 985
  patents, 232, 355, 481, 610, 875, 1075, 1219, 1358, 1502, 1713
Newman, H. P., girlhood, 174
Newmark, L., nerve resection, 1534
Newspaper, the, as pathologic factor, 205
Newspapers and medical profession, 525
  President's case and, 705
New York associations and societies, proposed union of, 1545
  York, examination in medicine in, 585
  York Hospital, Pathologic Institute of, 1120
  York medical news, 35, 121, 207, 335, 395, 457, 522, 587, 708, 788, 842, 920, 985, 1045, 1124, 1190, 1258, 1326, 1399, 1472, 1541, 1617, 1686, 1724
  York State Association, delegates from, 994
  York state insane, 560
  York State Medical Association, 1042
Nightmares and night terrors in children, pathogenesis of, 478
Night sweats in phthisis, formalin soap for, 1428
Nitric acid, treatment of gonorrhea with, 31
Nitrobenzol, poisoning by, 668
Nitrous oxid and ether anesthesia. 223

Nobel prize for founder of Red Cross, 1544
  prizes, awards of, 1613
Noble, C. P., uterine cancer, 1057
Noer, J., school hygiene, 1025
Noma, epidemic of, 1423
  etiology of, 117
  in typhoid, 997
  nitric acid in, 1402
  permanganate treatment of, 1609
Non-expert opinion as to imbecility, 999
Norbury, F. P., bed treatment of insane, 934
  F. P., etiology of paresis, 832
  F. P., treatment of pericarditis, 1583
North, J., asthma, 851
  Carolina medical news, 842
  Dakota medical news, 272, 842, 1190, 1542
Norway, malignant disease in, 1218
Nose and throat, catarrhal diseases of, 243
  and throat in chest diseases, 605
  and throat in medicine, 474, 943
  permeability of, 874, 1073
Nuclei pontis, 68
Nurse, feeing the, 1613
  unsentimental, 33
  the trained, and her position, 982
Nurses' Training School, 1560
Nursing bottles, danger in, 126
Nurslings, microbic flora in mouth of, 1254
Nutt, G. D., surgery and neurasthenia, 1056
Nuzum, T. W., traumatic nervous disease, 135

Obesity, extreme, 515
  treatment of, 1049
Observations, a visitor's, 1304
Obstetric operations, major, 1279
Obstetrics, address in, at Pennsylvania State Society, 1057
  practice of, 611
  spinal cocainization in, 1429
  surprises in, 1057
  value of cocain in, 1354
Obstipation, valvular, 933
Obstruction, intestinal, 145, 718
Occipito-posterior positions, 1485
Occlusion, treatment of intestinal, 1501
Ocular paralyses, table of extrinsic, 1366
Ochsner, A. J., radical operations for hernia, 850
Ocular disturbances in insane, 1147
Oculists and aurists, expert, examination by, 704
Official bulletins, the, 704, 784
Ohio medical news, 36, 121, 207, 272, 335, 396, 457, 522, 588, 651, 708, 788, 842, 921, 986, 1124, 1190, 1258, 1327, 1400, 1542, 1618, 1687
Ohlmacher, A. P., hydrophobia, 1442
Oklahoma medical news, 335, 842
  practice laws, 1011
Oldright, W., recent gallstone cases, 48
Oliguria, 1219
Oliver, C. A., dislocated cataract, 1202
  C. A., orbital sarcoma, 1202
  J. C., painful stump, 1055
Onomatology, 1006
Open-air treatment of consumption, 1341
  treatment of disease, 49
Operating table, new, 1696
Operation, right of recovery for, 1272
Operative surgery, modifications in methods of, 1338
  work, limitations of, 601
Ophthalmia, metastatic, cerebrospinal meningitis in, 1285
  neonatorum, 664
Ophthalmic science and art, 1492
Ophthalmoplegia, 1423
Ophthalmoscope, 63, 1691
Oppenheimer, S., uvular traumatism, 642
Optic nerve atrophy, 473
Orbit, glass ball in, 978
Oren, S. A., epithelioma of pharynx, 378
Oregon medical news, 335
Organization, medical, 30
Organized effort, in Lille, success of, 593
Orthopedic practice, neuroses in, 283
  surgery, teachings of, 410
Osborne, O. T., medical shock, 683
  O. T., condition of blood, 1652
Osler, W., splenomegaly, 133, 1340
Osmotic pressure and its relation to uremic manifestations, 256
Osteitis deformans, 351, 1423
  of knee, correction of deformities of, 1266
Osteoma, nasal, 1709
Osteomalacia, 1003
  cure of, by diaphoresis, 293
  treatment of, by castration, 1569
  two cases treated by castration, 1217
Osteomyelitis in newborn, 1567
Osteopaths, limit them to what they profess, 918
Osteopathy, another victim of, 1323
  Ohio decision on, 1683, 1690
  treatment, 1549
Otitis, infantile, 541
  media, 1491
  media, bacteriology of, 1421
  media mucosa, 941
  Rhodan reaction in saliva in, 1217
Oto-laryngology in Rostock University, 127
Ott, L., injuries, feigned and real, 1295
Outlook, encouraging, 274
  of the medical man, 660
Ovarian extract, 1011
Ovarian plexus, the, 1730
  surgery, results of, 357
  symptoms, 602
  tension pain, 714
  treatment, 945
Ovaries, conservation of, 1066
  metastases in, in malignant disease, 1148
  resection in ignipuncture of, 858
Ovary, dermoid cysts or embryomas of, 1184
  transplantation of embryonal tissue in, 231
Ovum, two weeks', 277
Owen, W. O., preventable disease in U. S. Army, 1110
Oxydonor, 417
Oxygen for boils, 124
  influence of, and elimination of, CO_2, 231
  inhalations, 1215
  inhalations for children, 1500
  in therapeutics, 152
Oxyhemoglobin, 870
Oxyuris, ovarian cysts containing eggs of, 231
Ozena in sinusitis, 1147
  treatment of, by methylene blue, 1353
Ozone, action of, on hemoglobin, 150

Packard, F. A., probable intestinal tuberculosis, 46
  F. R., suppuration of parotid glands, 450
Paddock, C. E., occipito-posterior positions, 1485
Paget, Sir James, memoir, 1047
Pain and suffering, compensation for, 404
  epigastric, 350
Pains, growing, 472
Palpation, mediate, 348
Pampiniform plexus, hemorrhage from varix of, 199
Pancreas, alteration of, in diabetes, 1284
  annular, 1561
  antiseptic function of, 389
  in diabetes, 1704
Pancreatitis, acute, and fat necrosis, 858
  acute gangrenous, 852
  gall-stones and, 1187
Pannus, treatment of, with radiating heat, 1497
Panhysterocolpectomy, 1141
Panophthalmitis, pathogenesis and abortive treatment of, 540
Pantograph, the chest, 138
Papilloma, laryngeal, 326, 1414
Paracentesis, air lavage of pleural cavity after, 481
Paraffin for ocular prothesis, 227
  injections in facial atrophy, 946
Paralyses, laryngeal, 1728
  prothesis, Gersuny's, 292, 1012
Paralysis agitans, pathogenesis of, 520
Paralysis, congenital facial, 1353
  general, juvenile, 655
  infantile, tendon transference and arthrodesis in, 1490
  intestinal, physostigmin in, 1498
  ocular, 1280
Parametrium, actinomycosis in, 1147
Parasite, flagellated malarial, 471
Paré Ambrose, 1142, 1275
Paresis, ocular, with unusual features, 1627
  pathogenesis of, 200
  vascular lesions in, 1708
Paris, infant hygiene in, 461
  letter, 38, 124, 339, 459, 988, 1126, 1193, 1474
  students' co-operative restaurant, 565
Park, R., cancerous process, 671
Parmele, G. L., revenue for state boards of dental examiners, 7
Parotid glands, suppuration of, 450
Parturients infection of, by baths, 1355
Patent medicines, testimonials and, 126
Pathologic exhibit at St. Paul, 30
  specimens, ownership of, 232
  Institute of New York hospitals, 1120
  specimens, 1627
Pathology, chemical, teaching of, 201
Patrick, H. T., brain syphilis, 1100
  H. T., traumatic neuroses, 1605
Pavlov's experiments on dogs repeated on man, 1710
Payne, R., toxic amblyopia, 1202
  R. W., anomalies of frontal sinus, 239
Peacock, A., mylosis intestinalis in *man*, 1412
Pearce, F. S., cerebral hemorrhage, 908
  F. S., nervous health, 934
  F. S., neuritis, 929
  R. M., increase of connective tissue in lung, 46
Pediatrics, advancement of surgical, 155
  Italian Congress of, 461
Pelvic surgery, 411
  surgery, accidents and complications of, 25
Pember, J. F., serotherapy, 134
Pemphigus, infantile, 1710
Pendent pelvis, operation close to diaphragm, 1354
Penetrating wound, abdominal, 1555
Penis, epithelioma of, 409
Pennington, J. R., hemorrhoids, 1658
  J. R., rectal prolapse, 46
Pennsylvania medical news, 121, 207, 336, 396, 458, 522, 657, 709, 788, 921, 986, 1125, 1190, 1259, 1327, 1400, 1473, 1542, 1618, 1687, 1724
Pension examiners, laxity in, 916, 1050, 1196
Pensioned patient, 593
Pentosuria, chronic, 727
Pepler, W. H., superheated dry air, 712
Percussion mallet, new, 1553
Pericarditis, cardiac lesions in negro, with special reference to, 1581
  clinical observations in, 1503
  etiology of, 1510
  pathology and pathogenesis of, 1507
  role of myocardium in, 1577
  suppurative, 869
  treatment of, 1582
  tubercular, 1580
Pericardium, adherent, 1578
Perimetry of joints, 230
Perineorrhaphy, intrapelvic intravaginal, 222
Perineum, complete laceration of, in child, 1411
Peritoneal infection, elimination of, 360
Peritonitis, chronic, 1285
  diffuse purulent, 1071
  gonorrheal, in little girls, 149
  idiopathic, 74
  pneumococcal, 1007
  pseudo-myxomatous, 543
  surgical prevention of, 360
  tubercular, 1054, 1275
  tubercular, curability of, 291
  tubercular, in children, 608, 1704
Personal injury case, particulars required in, 1204

Pessary, improved, for hemorrhoids, 230
Pest bacillus, 867
Pesthouse, injury to property by, 716
Petroleum compounds, 662
Pfeiffer, O. J., extrauterine pregnancy, 137
Pharmacy and medical laws, 1286
Pharyngitis, membranous, types of, 186
Pharynx, syphilitic, peripheral paralysis of muscles of, 1144
Phelp's hernia operation, 277
Philippine insular board of health, 649
Philippines, dysentery in, 599
  native medical practice in, 471
  sanitation in, 1207
  the, 1420
Phillips, W. C., mastoid suppuration, 1340
Phimosis as cause of lithiasis, 353
Phlebitis, early signs of puerperal, 72
Phlegmon following perforation of esophagus, 414
Phlegmons after amputations of fingers, 1283
Phonation, intercostal, 229
Phospho-creosote medication in tuberculosis, 541
Phosphorus poisoning, medicinal, 728
Photography, lamp for, 1073
Phototherapy, 945, 1070, 1730
  improved apparatus for, 229
Phthisis (see tuberculosis).
  pulmonalis, tent life and simplicity in treatment of, 1696
Physical culture and medicine, 1612
  therapeutics, teaching of, 1150
Physician as social factor, the, 1348
  the successful, 410
  wanted, 1725
Physician's claim, nature and limitations of, 1417
Physicians, distribution of, 1118
  not bidding against each other, 232
  special license of, 1415
Physiology, school text-books on, 1277
Physostigmin in intestinal paralysis, 1498
Phytolacca, 1351
Picnic grounds, consumptives', 593
Pigmentation, cirrhosis with, 815
Pile clamp, new, 1263
Piles, bleeding, in radical operation for, 137
Pilocarpin in croup, 219
  in eye disease, 722
Placenta duplex or biloba, 1269
  previa, Cesarean section in treatment of, 495, 856, 1349
Plague, agglutination of blood serum in, 148
  and its prevention, 605
  in San Francisco, 204
  inoculations and incubation stage of, 944
  persistency of, 118
  reports, 336
Plasma cells, elective double stains for, 1216
Pleura, chyliform effusion for, 666
  resorptive powers of, 837
Pleurisy of 40 years' duration, 226
  tubercular, diagnosis and treatment of, 1733
Pleuritis, ambulant, Lewaschoff treatment of, 799
  tubercular, 355
Pneumatic cabinet in heart disease, 1338
Pneumectomy, 664
Pneumococcus arthritis, 1212
  infection, generalized, 1357
Pneumonia, 474, 534, 1006, 1421, 1565, 1728
  abortive treatment of, 1240
  apical, 1067
  atypical, in phthisis, 65
  creosote in, 1346, 1731
  croupus, 223, 1348
  high temperature in, 220
  hot baths in, 1075
  infectious, 711
  lobar, 852
  lobar, bacteriology of, 536
  post-operative, 415
  protracted influenzal in, infancy, 560
  pulmonary, abscess, etc., following, 1342
  treatment of, 1237
Pneumonia, typhoid, 1322
  typhoid, bacteriology of, 1498
Pneumothorax, tubercular, 354
Pneumo-typhoid, 354
Pockets, anal, 221
Poisoning case, attending physician as witness in, 794
Poisons, arrest of, by leucocytes, 540
Politics and health officers, 1469
Polyneuritis, from Fowler's solution, 1356
  malarial, 71
  toxic, 1568
Polypi, aural, 1350
  rectal, 942
Population, congestion of, 223
Porter, M. F., cornual pregnancy, 853
  O. J., smallpox, 134
  W. D., position of woman during delivery, 614
Portman, A. E., implanting glass ball, in orbit, 978
Porto Rico, its climate and diseases, 221
  Rico, vaccination in, 332
Post-graduate courses in France, 459
Postmortem examinations, compensation for, 1344
Potassium cyanid, poisoning by, 412
Pott's disease, 866
  disease, mechanical reduction of hump in, 1215
Poverty and degeneracy, 1
Powder marks, 1000
Powers, C. A., diagnosis in carcinoma, 674
Practice of medicine, definition of, 1323
Practitioner, illegal, and poisonous dosage, 462
Practitioners, illegal, prosecution of, 1322
Preble, R. B., pericarditis, 1510
Precocity, intellectual, among physicians, 792
Pregnancies, ectopic, 1628
  gangrene complicating, 1051
  simultaneous extra- and intra-uterine, 1218
Pregnancy after myomectomy, 600
  and tuberculosis, 593
  cornual, 853
  dental caries in, 1643
  dietetic treatment of, 1074
  diseases of, 287
  ectopic, 137, 548
  extrauterine, trauma and, 230
  extrauterine, unique case of, 1410
  fibroids in, 1349
  heart defects and, 1148
  hematuria of, 1708
  hydrorrhea in, 1355
  laryngeal tuberculosis and, 1643
  mitral insufficiency in, 284
  ovarian, 548, 1146, 1351, 1561
  prolonged, 1278
  toxicity of urine in, 1278
  tubal, 581
  tubo-abdominal, 853
  unusual ectopic, 1414
  urinary toxicity in, 1421
Pregnant passenger, liability for injury to, 1487
Preliminary qualifications, deficiencies in, 525
Prepuce, nodular tuberculosis of, 1071
Prescription, negligence of clerk filling, 217
  the physician's, 347
  writing, 1544
Presentation, abnormal, sign of degeneracy, 1567
President, attempted murder of, 702
  McKinley, autopsy, bacteriologic examination, 1026
  McKinley autopsy, report of, 1029
  McKinley case, official report on, 1040
  McKinley, death of, 779
  McKinley, management of case of, 782
  McKinley, no disagreement among attendants of, 782
  McKinley, official report on case of, 1029
  McKinley's case, 1056
  shooting of, 705, 783
Pressey, A. J., morphinism, 1292
Pressure, intracranial, 534
Preventable diseases in army, discussion on, 1130
Price, J., appendicitis, 858
  J., vaginal puncture, 1409
Primary school, hygiene of, 932
Priority, a question of, 1610
Prizes offered in Mexico, 525
Problems, medico-sociologic, 1068
Pro bono publico, 392
Profession, an overcrowded—cause and remedy, 775
Prognosis, 915
  in relation to disease of the nervous system, 1495
Prolapse, complete uterine, 1493
  rectal, 68
Prolapsus uteri, new operation for, 1146
Propagation, regarding, 1127
Prospects, medical, 221
Prostate, chronic hypertrophy of, 1268
  hypertrophy of, 66, 535, 1275, 1422
  hypertrophy of, results in, 1481
  surgery of, 599
  total extirpation of, 411
Prostatectomy, 1730
  median perineal, 1482
  method of choice, 1151
  perineal, 1154, 1267, 1637
  successful perineal, 1708
  suprapubic, 1481
  suprapubic, priority in, 1610
  vs. prostatotomy, 1156
Prostatic obstruction to urination, 1338
  operation, necessity of exact diagnosis in, 1413
Prostatism, contra-indications for sound in, 1732
  special points in treatment of, 1214
Prostatotomy, vs. prostatectomy, 1156
Prostatopexy, 1709
Prothesis, ocular, 481
  vaselin subcutaneous, 1497
Protozoa in blood, 718
Pruritus, senile, of tongue, 1148
  vulvar, 341
Pryor, W. R., dysmenorrhea, 1552
Pseudoleukemia, 997
  and glycosuria, case of, 1217
  lymphoma vs., 1427
Pseudomyxoma, peritoneal, 230
Psoriasis, 541
Psychic disorders, malarial, 1285
  half, the, 1702
Psychoses, treatment of acute, in private practice, 1374
[illegible]
[illegible] 608
[illegible] 232, 294,
[illegible] 310, 670,
[illegible] 730, 800, 876, 948, 1012, 1076, 1150, 1219, 1286, 1358, 1430, 1502, 1571, 1644, 1713, 1734
Puerperal fever, 1010
Puerperium, importance of pulse in, 1711
Pulmonary, abscess, gangrene, etc., following pneumonia, surgery of, 1342
Pulp, blood supply of, 88
  degeneracy of, 85
  literature of, 86
  nerve supply of, 88
Pulse, importance of, in puerperium, 1711
Puncture, vaginal, 1409
Punton, J., fear as element of nervous disease, 1526
Pusey, B., new ophthalmoscope, 1691
  W. A., Roentgen rays in skin disease, 820
Pyelitis in women, 720, 722
Pyelonephritis in women, 720, 722
Pyemia, 605
  outbreak of, 138
Pylorus, early sign of stenosis of, 1182

Quack advertisements, 1635
Quackery, 1279
Qualifications, medical, 232
Quantity or quality, 1465
Quarantine, 1728
  power no authority to buy vaccine matter, 280
Queen of Servia, false pregnancy of, 209
Quimby, C. E., pneumatic cabinet, 1338
Quinin by hypodermoclysis, 1731
  effect of, on retina, 1444
  injections of, into cerebrospinal fluid, 1070
  intramuscular injections of, 542

Rabies, 1126, 1562
  eradication of, in England, 845
Radiography in lung surgery, 726
  mercury for injection into vessels for, 1149
  Roentgen, technique of, 231
Radioscopy of chest in children, 798
Radiotherapy in ophthalmology, 461
Radius, fracture of carpal end of, 662
  treatment of old forward luxation of, 798
Railroad car, place to clean teeth needed in, 1475
Railway car, cleaning of teeth in, 1261
  sanitation, 1253
  surgeon, the, 1492
  surgery, 1636
Randall, B. A., aural massage, 575
Ransohoff, J., rupture of kidney, 1055
Rape case, no physician in attendance at trial of, 1204
Rathmell, J. R., albuminuria in childhood, 641
Rats, mortality among, preceding plague, 539
Ravenel, M. P., unusual types of tubercle bacillus, 46
Ravogli, A., erythrodermo squamosum, 109
Raw meat and tuberculosis, 389
Ray, J. M., cosmetic and visual results in squint, 1165
Raynaud's disease, 533, 1423
Reamy, T. A., abdominal section, 1480
Reciprocity, medical, 1320
Recitation, teaching by, 771
Recovery, right of, for operation, 1272
Rectitis with stenosis, treatment of, 227
Recto-colitis, 45, 1728
Rectum, external palpation of, 607
  foreign bodies in, 1380
  new method of treating high-seated cancers of, 801
  prolapse of, 1730
  villous polypus of, 277
Red, neutral, in water examination, 665
Reed, B., movable kidneys, 995
  C. A. L., charges against military officers, 1693
  R. H., traumatism, 852
  W., yellow fever, 931
Reflex, supraorbital, 1561
Regicides, the, 1563
Registration, medical, in Michigan, 1492
Reindeer tendon for sutures, 230
Renal and ureteral surgery, present status of, 323
  and ureteral surgery, skiagraphic diagnosis for, 1228
  tension, discussion on, 1280
Rennet in infant feeding, 480
Reorganization of American medical profession, 451
  of Wisconsin State Medical Society, 135
Research work for undergraduates, 766
  work, medical education and, 736, 924
Resections and exsections, 795
Resistance exercise, 1276
Respiration, rapid, from brain disease, 853
Respiratory condition, gouty and obese, 1277
  movements, co-ordination of, 1207
  tract, upper, morbid conditions of, 851
Responsibility for crime, test of, 1698
  new phase of professional, 461
Rest, value of, in phthisis, 846
Retina, atrophy of, 1446
  detachment of, 1202
  embolism of central artery of, 1065, 1705
  newer pathology of, 1443
  thrombosis of central artery of, 1065
Retinitis, albuminuric, and uremic amaurosis, 284
Retractors, automatic weighted, 946
  mastoid, 1335
Retrodeviations, uterine, treatment of, 856
Retrodisplacements, uterine, 146
  in girls and unmarried women, 855
Retroflexions, 723
Retroversioflexio uteri, 1004

Retroversion of uterus, surgical treatment of, 426, 913
  uterine, new operation for, 1551
Reynolds, D. S., atrophy of retina, 1446
Rheumatism, 410, 1564, 1728
  and rheumatoid stimulants, 1634
  and throat inflammation, 1727
  chorea and, 1219
  gastric secretion in, 472
  gonorrheal, 137
  in children, 864
  streptococcal, 609
  tubercular, 607, 1008
Rhinitis, atrophic, 720
  hypertrophic, 861
  hypertrophic, treatment of, with zinc chlorid, 1577
Rhinoscleroma, 1286, 1593
Rhodan reaction in saliva of otitis, 1217
Rhode Island medical news, 336
  Island state board, 76
Ribs, cervical, 1492
Richards, G. L., anomaly of faucial tonsil, 242
Richardson, D. A., mammary carcinoma, 852
Richer, A. J., tuberculosis, 714
Ricketts, B. M., appendicectomy, 1533
  B. M., excision of ileocecal valve, 1054
  B. M., Phelps' hernia operation, 277
  E., mammary sarcoma, 854
Ridge fever, 1212
Ries, E., retrodisplacements of uterus, 424
Riesman, D., uremia, 1058
Riggs, C. E., treatment of acute psychoses, 1374
Ringworm, 143
  of scalp in institutions, treatment of, 1389
Risks taken by patient in charitable hospital, 936
Risley, S. D., cataract extraction without iridectomy, 1513
  S. P., ocular affections in childhood, 929
Ritter, E. N., lay medical education, 997
Rixford, E., gallstones with intestinal gangrene, 1483
  E., removal of tongue, 1483
Robb, H., drainage, 20
Robb, H., gynecologist as consultant, 573
Robinson, W. K., treatment of phthisis, 1696
Robison, J. A., prevention of tuberculosis in predisposed children, 505
  D., lachrymal stenosis in infants, 1671
Rochester, D. L., cardiac manifestations of arteriosclerosis, 1337
  D. L., treatment of pneumonia, 1237
Roddick, T. G., Dominion registration, 711
Rodman, W. L., perforating typhoid ulcer, 1056
Roe, W. J., ascites in syphilitic cirrhosis of liver, 1057
Roentgen ray, cutaneous treatment by, 276, 820
Rolls, J. A., senile gangrene, 1319
Romanowsky staining in blood films, 1007
Rosenthal, E., treatment of temperature by drugs, 443
Ross, G. G., appendicitis mortality, 898
  J. F. W., gastric ulceration, 712
  R., tropical diseases, 450
Rosenwasser, M., retrodeviations, 856
Round window, functional significance of, 472
Roy, D., nasal sarcoma, 377
Royal crania, Lombroso on, 1255
Royster, H. A., perineal laceration, 1411
Rubber gloves, report on sterilization of, 850
Rudolf, R. D., gastric ulcer, 49
Russell, A. L., large gallstone, 265
  Prof., tuberculosis, 714
Ruth, C. E., fracture of femur, 1661

Sacral canal, therapeutic puncture of, 150
  instead of lumbar puncture for children, 1732
Saddle nose, 662, 718
Sailor, J., aortic lesion, 997
St. Louis, fatal results from diphtheria antitoxin in, 1200
  tetanus outbreak in, 1489
St. Luke's hospital again, 648, 1329
Salernum, code of health of, 417
Salmon, T. E., animal and human tuberculosis, 508
Salpetriere and its head nurse, 462
Salpingostomy, 858
Salt injections, subconjunctival, 474
  solution, normal vs. decinormal, 40
Samara, Russia, general hospital at, 652
Samson, W. S., new adenoid curette, 1263
Samuel Fuller, pilgrim, doctor and deacon, 1298
San Francisco plague reports, 925, 1198, 1186, 1548
Sanatoria for consumptives, 38
Sanitariums for tuberculosis, report of German, 1355
Sarcoma, 866
  cutaneous, 286
  excision of upper jaw for, 48
  mammary, 854
  nasal, 377
  of forehead, 1136
  of iris, 1628
  of thyroid, 473
  orbital, 1202
  primary hepatic, 1562
  primary retroperitoneal, 645
  x-ray in, 1491
Savage, G. C., heterophoria, 1361
Scapula, congenital elevation of, 1055
Scarlatina, 603
  high temperature in, 536
Scarlet fever, condition of blood in, 725
Schachner, A., new carrier for suture materials, 214
Schamberg, J. F., variola, 46
Schlatter, another, 524
Schleich's local anesthesia in mastoid abscess, 728
Schmidt, L. E., epidermolysis bullosa hereditaria, 556
  L. E., prostatic operation, 1413
  L. E., skiagraphic diagnosis, 1228
School hygiene, suggestions regarding, 970
  inspection in Chicago, 1385
  life, hygiene of early, 1025
  life, influence of, on health, 932
  medical, what should govern student in selecting, 776
  teachers, physical examination of, 584
  text-books on physiology, 1277
Schools, daily medical inspection of, 1267
  for insane, 224
  medical, changes required in to meet modern conditions, 773
  medical, in Canada, 763
  medical, in United States, 744
  medical, graduates of, 763
  medical, states without, 763
Schwenk, P. N. K., dislocated cataract, 1202
Sciatica, cocain in, 339
  syphilitic, 668
  treatment of syphilitic, 292
Scientific research, basis of medical and material progress, 327
Sclerosis, multiple, unusual cause of, 1356
Scoliosis, 1285
Scopolamin-morphin anesthesia, 480, 876
Scott, C., prevention of tuberculosis, 830
Scrofulosis and tuberculosis, 873
Scurvy, 134
  infantile, 412, 1063
Sea air for nervous disorders, 1500
  anemone intracellular digestion in, 149
Seashore in local tuberculosis in children, 1567
Seasickness, 1395
  international congress on, 459
  remedy for, 1010
  systematic deep breathing for, 1356
Secrecy, medical, 1208
Secretaries of state boards, 294
Sectarianism in medicine, passing of, 1334, 1690
Self-digestion of tissues, 1536
Semen, biologic test for, 1721
Seminal vesicles and prostate; extirpation of, 39
  vesicles, exposure of, for extirpation, 399
Seminal vesicles, pathology of, 725
Seminar method, the, 741
Senn, N., carcinoma question, 804
  Prof., reception of at Tokio, 1475
Senn's book, high praise for, 50
Sepsis, puerperal, 537, 615
Septic infection, 286
Septicemia, blood examination in, 224
  puerperal, 874
  staphylococcal, 226
Septum, cardiac, defect of, 1570
Sequels, postoperative, 602
"Serious illness" in contract of life insurance, 999
Serodiagnosis in tuberculosis, 947
Serotherapy, 134
  of typhoid, 1640
  of whooping cough, 1074
Serum albumin tests, 223
  antidiphtheritic, 38
  demonstration, accidental, 704
  gelatinized, in gynecology, 289
  reaction, biologic specific, 1569
  treatment of erysipelas, 1074
Serums, action of toxic, on peripheral nerves, 1682
  cytolytic, applications to clinic of, 226
Shadowing, 839
Shallenberger, H. M., medical education, 996
Sharp, H. C., severing of vas deferens, 850
Sheldon, J. G., shoulder dislocation, 700
Sherman, H. M., congenital dislocation of hip, 1483
  H. M., nerve resection, 1534
Shields, E. H., Roentgen ray, 276
Shock in abdominal operations, 1145
  medical, 683
  prevention of, 1281
Shoemaker, G. E., address of welcome, 927
  G. E., bladder displacements, 1056
  J. V., parasitic skin disease, 1057
Shoulder, dislocation of, 700
Sickbed, gymnastics on, 1072
Sigmoid, disease of, 45
Sigmoidopexy, 1280
Silver nitrate, action of, 662
  netting to close tracheal defect, 1642
  soluble, as internal antiseptic, 1215
Simons, M., presidential address, 1481
Sin, indigestion and, 1540
Sinus, frontal, anomalies of, 230
  frontal, empyema of, 233
Sinuses, nasal accessory, after-treatment of operations on, 408
Sinusitis, ozena in, 1147
  sphenoidal, 149
  treatment of, by hydrotherapy, 1658
Sitio-phobia, cure of, 1429
Six years' course for degree in arts and medicine, 764
Skill required, 1061
Skiagraphic diagnosis for renal and ureteral surgery, new method of, 1228
Skiagraphy and fractures, 69
  new points in, 608
Skin disease, parasitic, 1057
  diseases, electrolysis in, 65
  disorders, x-rays in, 820
  grafting, 283
  influence of arsenic on healthy tissues of, 1068
  transverse suprapubic division of, in abdominal section, 1695
Skull and photograph admissible in evidence, 936
  fracture of, 866
Sleeping car accommodations, needed sanitary, 1253
  car accommodation, sanitary, 1403
Smallpox, 603, 605, 712, 912, 1494
  corneal diseases due to, 1696
  epidemic, the, 524
  experience with, 134
  experimental research on, 666
  further study of pseudo or modified, 295
  in Kentucky, 1334
  mild and irregular, diagnosis of, 302, 305
  notes on, 1608
  old and new, 299
  picric acid in, 543
  suspects, city not liable for detention of, 1698
  present outbreak of, 713
Smallpox, sanitary features of, 290
  vaccination and, 48, 915, 1677
Smith, A. L., ureteral transplantation, 713
  E. B., fractures, 849
  J. W., multiple rupture of choroid, 1535
  R. R., primary retroperitoneal sarcoma, 645
  S., opening address, 930
  S. M., influenza, 928
Snare guard for Ingals' operation, 462
Societies—See Index of Departments, p. 1753
  county, encouragement of, 1055
Soda cacodylate, 601, 628
Sodium cacodylate in tuberculosis, 1501
  salicylate, 1641
  salicylate, blindness from, 339
  tungstate test, 601
Solland, A., smallpox, 912
Solly, S. E., tuberculosis in Colorado, 1629
Somnambulism, 1494
South America, infectious diseases of, 488
  Carolina medical news, 36, 458, 843
  Dakota medical news, 458, 843, 1542
Southern California, 1347
  Medical College Association, 762
Southwest, arid and semitropic, 1494
Spain, sanitary progress in, 1581
Spalding, H., smallpox, mild and irregular, 302
Specialism, 408
Specialization by undergraduates, 983
Spectacles, 68
Speech as factor in diagnosis of backwardness in children, 975
Spencer, J. C., palliative treatment of chronic prostatic hypertrophy, 1268
Spermin crystals in pus, 1004
Sphincter, rectal influence of upper intestines on, 1356
Spider bites, 1006
Spina bifida or hydrorrachitis, 627
  bifida, operation for, 853
Spinal cord, degeneration of, 873
  cord in children and syringomyelia, 1284
  lesions, 470
  surgery, remarks on, 569
Spine, bullet wound of, 67
  curvature of, 1285
  the neurasthenic, 1632
Spivak, C. D., esophagometer, 137
Splanchnoptosis, 1729
Splashing in stomach a sign of atony, 1282
Spleen, framework of human, 1706
  rupture of, in malarial subjects, 1640
  surgery of, 856
  traumatic rupture of, 727
Splenomegaly, 133
  primary, with cirrhosis of liver, 1340
  splenectomy in, 230
Splint, ambulatory pneumatic, for femur fractures, 1605
Spondylosis, rheumatic, pseudoneuralgic, 1496
Sponges, mechanical device to prevent miscounting of, 1051
Sprains, 349
Sprays, nasal, [illegible]
Sputa, rapid examination of, 543
Squint, cosmetic and visual results in, 1165
Stab-wound, cardiac, 1702
Staining accidents, 1348
Stammering, treatment of, 1519
Staphylococcus urethritis, 1731
Starkey, H. M., ocular extrinsic paralyses, 1366
Starr, M. A., multiple neuritis, 1625
Stasis, gastric, treatment of, by dry evacuation, 1641
  hyperemia, influence of, on bone-formation, 1429
State board examinations, 76, 294
  board of health, disciplinary power of, 597
  institutions, politics in, 917
  reformatories in England, 274
States not requiring examination, 876
Statesman, the medical, 1467
Statistics, medical education in, 838
  medical educational, 838

Stealy, J. H., resection of cecum, 265
Stearns, W. G., fracture of skull, 1412
Steeves, A. M., infectious diseases, 97
Stelwagon, H. W., ringworm of scalp, 1389
Stengel, A., myocardium in pericarditis, 1577
Stenosis, gastric, operative treatment of double, 1010
  lachrymal, in infants, and its treatment, 1671
  nasal, 720
  pyloric, 540
  rectal, 988
Stereognostic sense, 1349
Sterility in women, 472
  increasing, of American women, 890
  male, 1702
  of American women, increasing, 1532
Sterilization and pasteurization vs. tubercle—free herds, 477
Stern, H., osmotic pressure, 256
  H., percussion mallet, 1553
Sterne, A. E., *dentist's neck*, 934
Stethoscopy, improved technique for, 1642
Stieren, E., gumma of ciliary body, 929
Stockton, C. G., hepatic cirrhosis, 817
  C. G., typhoid cholecystitis, 1339
Stomach, acute dilatation of, 533
  chronic ulceration and, 712
  bilocular, 1702
  functional result after operations on, 668
  fungus colonies in, 946
  gunshot wound of, 1141
  hour glass, 947
  malignant disease of, 796
  perforation of, after-care of cases operated on, 1565
  Rovsing's ablation of, 735
  sound, application of, in ulcer, 668
  splashing in, sign of atony, 1282
  study of a fetal, 1674
  syphilitic affections of, 1069
Stomatitis, ulcero-membranous, methylene blue in, 1640
Stomatology, section on, address of chairman, 3
Stone, I. S., abdominal incision and ventral hernia, 1480
  in the tropics, 944
  W. S., cancer of ovary, 1551
Stout, G. C., syphilitic lesion of faucial tonsil, 979
Stover, G. H., *x*-ray, 138
Stowe, H. M., tracheotomy in breach presentation, 1036
Strabismus, concomitant, 1493
  its treatment, 1167, 1242
  operation, the, 1090
  other than operative treatment of, 1087
Strength, 997
Streptococcus, erysipelas and, 6[illegible]
  infection following labor, 619
Streptothrix infection, 603
Stress, periods of, and their dental marks, 94
Strongyloides, intestinalis, 722, 1683
Strictures, circular resection of rectal, 1709
Stump, painful, after amputation, 1055
Stuver, E., typhoid fever, 137
Stypticin, 1637
Sublimate, painless application of, to mucous membranes, 1070
  poisoning, nerves in, 542
Submaxillary glands, lithiasis of, 1147
Sudhoff, G. F., Addison's disease, 277
Suffering, statement of injured persons as to, 716
Sugar as stimulant for muscular exertion, 1673
  the use of, 202
Suicides, increase of, 119
Sulphate of copper, 407
Sulphur, electrolytic transmission of, 606
Summer diarrhea, 284, 285
  diarrhea, infantile, 602
Summoning of surgeon by conductor, 999
Sun baths for eczema, 46
Sunstroke, cerebral effects of, 1215
  pathology of, 454
Suppuration, fetid and gangrenous, bacteriology of, 1214
  non-bacterial, 292
Suprarenal capsules, *physiopathology of*, 1285
  extract, examination of bones in children treated with, 354
Suprarenals, physiology of, 873
Surgery, address in, Canadian Medical Association, 714
Surgery, gastro-intestinal, 1704
  conservative ovarian, 852
  requirements of modern, 1172
  requirements of modern, 1706
  spinal, remarks on, 621
  urinary, experiences in, 1707
Surgical cases, unusual, 147
  cases, management of, 1707
  instruments, disinfection of, with soap tincture, 946
Survivorship, opinion evidence on, 1631
Suture, autoplastic, 1162
  intestinal, 225
  material, new carrier for, 214
  abdominal wall, 933
  of nerves and tendons, 461
Suturing tissues without foreign material, 1074
Sweat baths, 719
Sweating, leucocytosis in, 1072
Sycosis, *x*-rays in, 823
Symblepharon, 1279
Sympathetic, resection of cervical, 1339
Symphysiotomy, 1002
  and Cesarean section, 1355
Syms, P., perineal prostatectomy, 1154
  P., *tuberculosis of cervical* glands, 1337
Syncytioma malignant, of vagina, 73
Syphilis, 348, 602, 1209, 1212
  ancient and modern conception of, 545
  as seen by ophthalmologists, 713
  binary, 1199
  cerebral, 1457
  cerebral, psychosis in, 1102
  connection between general paralysis and, 1549
  corneal lesions in, 1669
  curability of, 1210
  diagnosis of, 1210
  evolution of, 655
  fetal, diagnosis of, 1569
  hepatic, 600
  ignored, 1563
  in Hungary, extragenital endemics of, 1074
  insontium, 1494
  intramuscular mercurial injections for, 1137
  iodo-hydrargyrum-cacodylate in, 540
  lupiform, 353
  management of, 1210
  nasal and faucial, 136
  of nervous system, 1105
  persistent lesions of, in spite of mercurialization, 70
  pulmonary, 1210
  relation of, to blastomycetic dermatitis, 104
  treatment by mercurial injections, 39
Syphilitic arterial disease, 1706
  ground for annulment of marriage to, 936
Syringomyelia of medulla and pons, 1147
  spinal cord in children and, 1284

Tabes and paralysis, early diagnosis of, 74
  connection of, with mercurial treatment, 1499
  dorsalis, optic atrophy in, 392
  juvenile, 1643
  ulceration of face in, 353
Tachypnea, nervous, 114
Tails, human, 68
Tait, D., medication into epidural space, 793
Talbot, E. S., dental degeneracy, 85
Talley, J. E., kidney complications of typhoid, 1058
Talma's operation, 137
Tampon, uterine, in Cesarean section, 1429
Tamponing abdominal cavity, 1010
Tannin, 348
Tank, the septic, 845, 1051
Tapping the chest, accidents in, 996
Tarsadenitis meibomica, 1290
Tate, D., cancer of esophagus, 1136
  D., Dupuytren's contraction, 1136
Taxation and tuberculosis, 982
Teaching by recitation, didactic lecture, ampitheater clinic and the ward class, 771
Teeth irregularities, 287
  methods in preparation of, 90
Telegraph, story by, 1479
Temperature, high, in scarlatina, 536
  of mouth and rectum, 341
  reduction of, by rectal irrigation, 1262
  treatment of, by drugs, 443
Tendon grafting, 1209, 1422
  grafting in infantile and spastic paralysis, 869
  transference and arthrodesis in infantile paralysis, 1490
Tennessee medical news, 36, 272, 396, 588, 843, 1045, 1259, *1327, 1542, 1688*
Teratologic case, remarkable, 543
Teratoma, testicular, 47
Terminology, recent medical, 1183
Tertiary manifestations, unusual, 438
Tesla currents and *x*-rays, effect of, on bacteria, 1432
Testicle, dermoid cyst of, 1422
  retention of, 1706
  tuberculosis of, 941
Testis, torsion strangulation of, 662
Tetanus, 347, 459, 1144
  cold applications in, 1187
  cured by intracerebral injections of antitetanus serum, 1497
  experimental, transfusion of saline infusion in, 1217
  from antidiphtheria serum, 1255
  in Camden, N. J., 1539
  in vaccination, 1701
  outbreak in St. Louis, the, 1489
  subarachnoid antitoxin treatment of, 874
  treatment of, 152
  toxin, effects of, 1712
Tetany and epilepsy, association of, 871
  pathology of gastric, 225
Texas medical news, 36, 272, 336, 651, 921, 1190, 1400, 1542
Text-book, place of, in medical course, 773
Thalamus, optic, tumors of, 1496
Therapeutics. See Index of Departments, p. 1755
  mental, 1006
  personal element of error in, 934
  teaching of physical, 916
Thermol, 66
Thermometers, clinical, 65, 701
Thienhaus, O., atresia hymenalis, 194
Things patient may rely on, 1557
Thiocol, 1637
Thiosinamin, 147
Thomas, H. M., open-air treatment of consumption, 1341
  R., medical defense, 711
  T. G., dinner to, 1477
Thomson, C. E., fracture of neck *of femur*, 1058
  W., *orbital sarcoma*, 1202
Thorax, recovery after crushing of, 292
Throat inflammation, rheumatism and, 1727
  cultures, value of, in diphtheria, 1287
Thrombophlebitis of superior longitudinal sinus, 1350
Thrombosis, neoplastic, 74
  of lateral sinus from otitis, 1339
  of left innominate vein with pericarditis, 728
  of mesenteric vessels post-operative, 1565
Thuja occidentalis for removal of *laryngeal papilloma*, 326
Thyroid drafts, technique of, 71
  gland, total extirpation of, 185
  medication in children, 1567
  treatment, intoxication from, 1568
Thyroids, accessory, 1142
Tibia, intrauterine fracture of, 1055
Tincture of iodin in infected wounds, 470
  of soap, disinfection of surgical instruments with, 946
Tissues, self-digestion of, 1536
Tobacco, why withhold, 924
Todd, F. C., Mules' operation, 1369
Tokio as seen by American physicians, 1194
Tongue as breeding place for bacteria, 170
  removal of, 1483
  senile pruritus of, 1148
Tonometer, Gaertner's, 1701
Tonquin medical school, 1453
Tonsil, malignant disease of, 1208
  primary syphilitic lesion of faucial, 979
Tonsillitis, 536, 1424
  acute lacunar, 1005
  membrano-ulcerative, 354
Tonsillotomy rash, 474
Tonsils, 1142
  dangerous hemorrhage from removal of, 911
  functions of, 864
  malignant tumors of, 947
  removal of, in adults, 1069
  unusual anomaly of faucial, 242
Torticollis, 1706
  spasmodic, 1730
Tours, medical, 265
Townsend, W. R., osteitis of knee, 1266
Toxic action in pathogenesis of insanity, 1352
Toxins, tubercular, action of high frequency currents on, 542
Trachea, deep stenosis of, 415
  silver netting to close defect in, 1642
Tracheal injections, 721
  tube, the, 473
Tracheotomy and intubation, *tardy disturbances after*, 1428
  in breech presentation, 1036
Trachoma, 713, 1637
Traction, continuous, for shoulder reduction, 700
Tracy, S. G., electrophone, 1266
Trade, tuberculosis and, 1068
Trades-unionism in medicine, 1468
Transonance, outlining organs by, 1010
Traumatism, chemical treatment of, 852
Treatment, expectant, 601
Tremors, 1638
Trichinosis, 867
Tri-chlor-tertiary butyl-alcohol, 472
Trigeminus, division of sensory root of, 1728
Trional fatalities, 1420, 1483
Tripod, right-sided anatomical, 1706
Tropa-cocain in spinal analgesia, 75
Tropa cocainization, spinal, death after, 1149
Tropho-neuroses, 142
Tropical diseases, 450
  diseases, prize essays on, 36
  medicine, London school of, 1473
  remedies, 411
  residence, 1638
Tropics, *stone in*, 944
Tubal and ovarian disease, 867
Tubercle bacilli, differentiation of, 351
  bacilli, agglutination of, 1710
  bacilli, identity of human and bovine, 1185
  bacilli in milk, influence of heat on, 1498
  bacilli, portal of entry for, 1216
  bacillus, morphologic and physiologic variations of, 385
  bacillus, staining the, 274
  bacillus, unusual types of, 46
Tuberculin, 32, 661
  Goetsch on, 610
  Koch's new, in tuberculosis of knee, 1072
  test, 724, 1141
  tests in infants, 539
  therapeutic and diagnostic value of, 384
  treatment of tuberculosis with, 151
Tuberculinum purificatum, 536
Tubercolodermata, 1349
Tuberculosis, 145, 221, 223, 289, 474, 930, 940, 1064, 1067, 1348, 1702
  agglutination of tubercle bacilli in treatment of, 1710
  alcohol in, 1349
  and alcoholism, 538
  and heart disease, 294
  and house infection, 582
  and trades, 1068
  anilin for, 1282
  arrest of pulmonary, 288
  bacteriology of, 209
  blood in, 1501

Tuberculosis, bovine, 648, 510, 942
  bovine and human, 1420
  bovine, examination of carcasses in, 477
  bovine, tuberculin test and, 724
  British Congress on, 931
  cardiac, 47
  choroidal, 412
  cinnamic acid and igazol in, 415
  climate in, 661
  communicability of human, to cattle, 1352
  Congress, the, 123
  conjunctival, 942
  contagiousness of, 660
  devitalized air toxemia as cause of, 383
  diagnostic value of tubercle bacilli in, 1213
  diminishing mortality from, 1217
  diplococcus semilunaris in, 1217
  distribution of, in Baltimore, 537
  early diagnosis of, 289, 525
  experimental inherited, 481
  experimental suprarenal, 799
  floor infection of children with, 947
  formic aldehyde in, 720
  from toxemic state, 537
  genital, 1492
  heredity in, 388, 1141
  home and sanatorium treatment of, 941
  home treatment of, 66, 282, 347, 535
  human and animal, 508
  in animals, 923
  in animals, control of, 539
  in animals, diagnosis of, 385
  in Australian stock, 539
  in childhood, 289
  in children, 1636
  in children, seashore in, 1567
  in Colorado, 1629
  in Indian school, 138
  in Jews, 1348
  in middle states and its curability, 1718
  in milk supply, 386
  in postoffice, 945
  incipient, 1349
  infantile, 536
  influence of vicissitudes on development of, 1567
  internal genital, 1210
  international relations in prevention of, 288
  Koch's views on, 1074
  laryngeal, 1140
  laryngeal, and pregnancy, 1643
  latent pulmonary, 348
  lecithin in, 1283
  legislation, 1492
  lime in treatment of cutaneous, 1199
  local, bone charcoal after operations for, 415
  lymphatic gland, 608, 997
  mental and moral disposition in, 1429
  mortality from, in England, 388, 606
  natural immunity from in Natal, 477
  need of small numerous sanitariums for, 1219
  notification of, 382
  of adrenals, 1348
  of breast, 1728
  of cervical glands, surgery of, 1337
  of cervix, 1423
  of female bladder, value of cystoscopy in, 1355
  of female generative organs, 1354
  of knee benefited by Koch's new tuberculin, 1072
  of nasal mucous membrane, 1350
  of nervous system, 289
  of prepuce, 1071
  of testicle, 941
  of testis, castration for, 415
  of upper air-passages, 537
  Ohio society for prevention of, 1394
  pericardial, 146
  peritoneal, 1564
  personal factor in, 1496
  phospho-creosote medication in, 541
  pregnancy and, 593
  prevention of, 287, 537, 980, 988, 1004, 1215
  prevention of, in babies of tuberculous parents, 830
Tuberculosis, prevention of, in predisposed children, 505
  primary abdominal, 996
  primary intestinal, 1217
  primary intestinal, in children, 1696
  probable primary intestinal, with metastases, 46
  prophylaxis, of, during childhood, 382
  pulmonary, 663
  pulmonary, in life insurance, 719
  pulmonary, operative treatment of, 355, 1733
  question, the, 1140
  registration of, 537
  relations between human and bovine, 1071
  renal, 409, 1283
  report of German sanitariums for, 1355
  resolutions of Congress on, 389
  respiratory exercises in, 1219
  Roentgen rays in, 289
  sacro-iliac, 1634
  sanatorium for, 1477
  sanatorium treatment of, 34, 1496
  scrofulosis and, 873
  sero-diagnosis in, 947
  silver nitrate injections in, 524
  sodium cacodylate in, 1501
  spinal and hip-joint, 866
  splenic miliary, 865
  spread of, by coughing, 685
  surgical, 1212
  surgical treatment of, 289
  symposium on, 714
  taxation and, 982
  the fight against, 259
  toxicity of excretions in, 1501
  transmission of, 1275
  treatment of, 417
  treatment of, by high tension electric currents, 1213
  treatment of, by mechanical hyperemia, 875
  treatment of, by nascent iodin, 1501
  treatment of fever in pulmonary, 1500
  treatment of, with tuberculin, 729
  unsolved problems of, 391
  urea in, 863
  value of rest in, 846
  vulnerability of apices in, 70
  zomotherapy in, 289
  zoological distribution of, 660
Tuberculous meat, sale of, 538
Tuholske, H., extrauterine pregnancy, 1410
Tuley, H. E., treatment of typhoid in infancy, 1182
Tumor, cerebellar, 1211
  gastric, hairy, 713
  transplantation, 867
Tumors, doubtful, exploratory incision in, 290
  duplicity of protopathic malignant, 608
  malignant, arsenical treatment of, 74
  malignant, blood in, 542
  malignant, diagnosis of, 668
  malignant rectal, 45
  mixed, infrequency of primary malignant, 980
  of breasts, 1728
  pelvic and abdominal, in pregnancy, 1410
  segment of spinal cord in diagnosis of, 72
Turbinate body, relation of middle, to chronic nasal diseases, 189
Turck, F. B., dietetics, hydrotherapy, etc., 738
Turner, V. E., revenue for conducting boards of dental examiners, 8
Tuttle, J. P., malignant tumors of rectum, 45
Twin conception, 644
Tyler, G. E., pernicious anemia, 1414
Tympanum, anesthesia of, 1725
Typhoid bacilli in blood, 517, 1635
  bacilli, urinary elimination of, 1499
  bacilli in urine, 1713
  bacilli, vitality of, 1354
  immunity, 867
  fever, 64, 137, 797, 1421, 1562
  fever abenteric, 202
  fever in children, 1681
  abscesses in rectus muscles in, 873
  air-born, in armies, 724
  and diphtheria, 117
Typhoid and dysentery, surgical features of, 933
  blood corpuscles in, 1425
  cold rectal injections in, 660
  diagnosis and treatment of, 352
  diazo-reaction in, 1496
  dietetic treatment of, 1251
  effects of, on nervous system, 1058
  hematology of, 341
  in infancy and childhood, 440, 660
  infantile, remarkable case of, 1058
  infantile, treatment of, 1182
  inoculation for, 352
  kidney complications of, 1058
  laboratory diagnosis of, 441
  milk or whey in, 1426
  normal salt solution in, 223
  peritonitis from propagation, 1712
  serotherapy of, 1640
  statistics of, 729, 1058
  treatment of, 713
  without intestinal lesions, 409
Typhosis, syphilitic, 1427
Tyrosinase, 1612

Ulcer, gastric, 49, 225, 664, 719, 1066
  gastric, age and sex in, 1426
  gastric, bismuth in, 1711
  gastric, from diphtheria bacillus, 409
  gastric, pathogenesis of, 1302
  perforating typhoid, 1056
  rodent, treatment of, 665
Ulcers, surgical treatment of, 1695
Umbilical cord, coiling or occlusion of, 219
Unborn child, no damages recoverable for, 860
Uncinariosis, 605
Undergraduates, research work for, 766
  specialization by, 983
United Profession, a, 517
U. S. Army, medical corps of, information for candidates to, 791
University work in medicine, 765
Urban concentration, tendency to, 203
Urea in tuberculosis, 863
Uremia, influence of food on, 542
  morphin in heart troubles and, 1732
  pathology, symptomatology and treatment of, 1058
  protracted, with bulbar symptoms, 413
Ureter catheterism, 1212
  transplantation of, 713
[illegible]
[illegible] of, 148
[illegible]
  technic of suture of, 726
Urethral diseases, fallacies in treatment of, 1223
Urethritis, operation in calculous nephritis and, 1451
Urethroscope, the, 1728
Urethrotomy, internal, 1423
Uric acid fallacy, 868
  acid inflammation of middle ear, 514
  deposits in body and means of dissolving them, 1500
Urinary surgery, experience of, in England, 1630
Urine, blue, 1723
  examination in male sexual disorders, 286
  globulicidal action of, 583
  green or blue, 1008
  in tuberculous infection, 1008
  interrupted centrifugalization for sedimentation of, 947
  suppression of, 536
  typhoid bacilli in, 1713
Urticaria, postdiphtheritic, 1142
Utah medical news, 272, 843, 1190
Uterus and vagina, new method of extirpation of, 414
  anomalies of, 1562
  gunshot wounds of pregnant, 1422
  instrumental perforation of, 1057, 1729
  lactation atrophy of, 1711
  new operation for retrodisplacement of, 424
  prolapse of, 1338
  puerperal, streptococcal infection in, 609
  ridges and folds of, 409
  rupture of, 339, 609, 1732
  surgical perforation of, 71
Uterus, suspension of, 855
  technique of drainage of, 462
Uvula, traumatic affections of 642, 1005

Vaccinia, cowpox and smallpox, identity of, 115
Vaccination, 1145, 1491, 1701
  and smallpox, 915, 1677
  as therapeutic measure in whooping cough, 231
  compulsory, authority required for, 861
  patent for, 310
  question, the, 1680
  report of committee on, 1554
  shield, 1691
  technique of, 1561
  tetanus in, 1701
Vaccinations, antirabic in 1900, 478
Vaccine, 652
  production, 1701
Vaccinia, genuine, 1561
Vaginal section, 1703, 1705
Valve, ileocecal, excision of, 1051
Valves, rectal, 145
Van Hoevenberg, H., gunshot wounds of intestine, 1339
Van Zant, C. B., chest pantograph, 138
Varices at base of tongue in esophageal cancer, 1147
Varicocele, 1278
Variola, 46, 307
  and measles, blood differentiation of, 1353
Varix, filarial lymphatic, 864, 870
Vas deferens, severing of, 850
Vasomotor influences on blood, 266
Vaughan, V. C., cirrhoses of liver, 877
Vault, simple fracture of, 834
Veasey, C. A., double neuro-retinitis, 1586
Veins, repair in experimental lateral ligature of, 542
  safe limit in operating on, 669
  slitting thrombosed varicose, 946
  varicose, 933
Vena dorsalis penis, resection of, 69
Venereal disease, prophylaxis of, 1536
  diseases, enlightenment of upper grade students as to, 1550
Venesection, experiences with, 137
  indications for, in children, 511
Ventilation, school, 535
Ventral fixation, 864
Ventroscopy during vaginal operation, 1497
Ventrosuspension, 601
Veratrum viride, 721, 1564
Vermont medical news, 272
Verrucæ of buccal mucosa, 465
Verrugas peruana, causal agent of, 1149
Vertex presentations, anterior, 1484
Vertigo, treatment of, 874
  tympanic, 472
Vesical emergencies, 1338, 1560
Violet cure for cancer, 1624
Virchow anniversary in New York, 1047
  fund, the, 40
  on bovine tuberculosis question, 525
  Rudolph, 1038
Virginia medical news, 122, 336, 843, 1191
Vision, economic valuation of, 334, 350
  feigned impairment of, 1422
Vitality and chemism, 116
  of buried typhoid bacilli, 1354
Vivisection in politics in Massachusetts, 1254
  reply to Dr. Keen, 592
Volunteer health inspectors, 917
Vomiting, nervous, gastric lavage for, 1498
Von Coler, Alwin, death of, 652

Wadsworth, W. S., tuberculosis of heart, 47
Wahrer, C. F., plea for backward child, 976
Walker, E., galvanism for hemorrhage, 855
Walls, F. X., influenzal pneumonia, 560
Walton, G. L., spinal fracture, 1200
Ward class, teaching by, 771
  G. G., multilocular cysts of kidney, 1269

Warner, L. H., hematology, 933
Warning, a, 1051
Warren, H. E., gonorrheal rheumatism, 137
Warships, healthfulness of modern, 724
Washington medical news, 336, 588, 843, 1191, 1543
Water, neutral red in bacteriologic examination of, 665
  quantity of, in foods, 341
  test for purity of, 459
Wathen, W. H., ovarian pregnancy, 548
Waxham, F. E., castor oil in pneuralgia, 137
Webster, J. C., uterine retroversions, 913
Weir, R. F., *rectal cancer*, 801
Welch, W. M., variola, 46
Wells, permanganate disinfection of, 665
Welt-Kakels, S., foreign bodies, 1695
Werlhof's disease, intravenous mercurial treatment of, 1[illegible]
West Virginia medical news, 36, 1400
Westbrook, F. F., bacillus diphtheria, 713
Westervelt, H. C., infantile typhoid, 1058
Wetherill, H. J., unusual ectopic pregnancy, 1414
Weymann, W. F., tarsadenitis meibomica, 1290
Wherry, W. B., carbuncle, 138
  W. B., segmentation and fragmentation of myocardium, 138
Whey treatment in typhoid, 1426
Whistle, *intragastric*, 720
Whitacre, H. J., branchial fistula, 277
Whitney, H. B., venesection, 137
Whooping cough, 797
  cough, prevention and treatment of, 1733
  cough, serotherapy of, 1074
  cough, vaccination for, 231
Widal reaction in children, 1209
  reaction, value of, 1562, 1695
Widal's reaction, value of, in typhoid of children, 869
  sera-diagnosis, 38, 348, 1144
Wife as witness *to contract*, 1061
Wiggin, F. H., uterine prolapse, 1338
Wilder, W. H., epitheliomata, 1628
  W. H., corneal lesions in syphilis, 1669
Will cases, restriction of expert evidence in, 597
Willard, D., removal of foreign bodies from air-passages, 1077
Williams, C., uric acid inflammations, 514
  F. H., cancer and *x*-rays, 688
  H. U., role of mast-cells in infection, 1596
Wilmarth, A. W., backward child, 973
Wilson, L. B., diplococcus pneu*moniæ in meningitis*, 1675
Wisconsin medical news, 122, 207, 272, 458, 588, 709, 921, 1045, 1191, 1327, 1400, 1724
Wisdom teeth, disturbances caused by, 41
Witnesses, non-expert, 860
Wolbarst, A. L., gonorrhea in boys, 827
Woman's life, pecuniary value of, 584, 597
  Medical College of Pennsylvania, 126
Women, American, increasing sterility of, 890
  cystitis, pyelitis and pyelonephritis in, 720, 722
  in medicine, 1403
  mental weakness of, 1424
Wood, Jr., H., acute mastoiditis, 320
Woodring, W. W., mountain fever, 852
Woods, Jr., H., cataract, 1517
Wounds of Presidents Garfield and McKinley, 779
  pistol shot, 1063
Wright, E. W., *school life*, 932
Writers, medical, caution to, 1120
Wry-neck, cotton cast for congenital, 1356
  manipulative treatment of, 1501
Wyeth, J. A., presidential address, 1337
Wyman, H. C., typhoid, 933
Wysor, J. C., gunshot wound of *abdomen*, 1555

Xeroderma pigmentosum, 729
X-ray burns, 540, 729, 792
  effect, a new, 1403
  in diagnosis of calculus, 1208
  in lupus vulgaris, 1143
  in medicine and surgery, 138
  in quackery, 40
  in sarcoma, 1491
  photographs, methods of taking, 1631
  therapeutics of, 799
  treatment of hypertrichosis, 1499
X-rays, effects of, on bacteria, 1432
  treatment of cancer by, 688

Yale in medicine, 1392
Yaws, histo-pathology of, 1008
Yeast cells, agglutination of, 1354
  effect of, on leucocytes, 354
  in treatment of leucorrhea, 73
Yellow fever, 75, 450, 470, 532, 931, 1065, 1560
  fever and mosquitoes, 115
  fever and snake-bite, 153
  fever, different ways by which it may be transmitted by mosquito, 1387
  fever, etiology of, 704
  fever, experimental, 219
  fever, experiments, Cuban, 839
  fever in Cuba, military precautions against, 50
  fever in Havana, 796
  fever investigation by Marine Hospital Service, 916
  fever, mosquito theory of, 875, 1149
  fever, the cedron seed in, 341
  fever, transmission of, 1276
Young, H. H., prostatic hypertrophy, 1481

Zangger, Dr., sinusitis in hydro-
Zederbaum, A., cardiac disease, 137
Zeit, F. R., tesla currents and *x*-rays on bacteria, 1432
Ziegler, S. L., contagious diseases of eye, 929
Zinke, E. G., Cesarean section, 856
  E. G., practice of obstetrics, 611
  E. G., two weeks' ovum, 277
Zomotherapy in phthisis, 289
Zona, epidemic character of, essential, 71
Zoophile, the shifty, 1539

INDEX OF DEPARTMENTS.

BOOK NOTICES.

Abbott, A. C., Hygiene of Transmissible Diseases, 212
Agote, Luis, La Peste Bubonique, 925
American Illustrated Medical Dictionary, 1332
  Text-book of Pathology, 1546
Anatomy, Descriptive and Surgical, 1547
Anders, J. M., Text-book of Practice of *Medicine*, 1265
Anesthetics and Their Administration, 1265
Annual and Analytical Cyclopedia of Practical Medicine, 526
Aphorisms, Definitions, Reflections, and Paradoxes, 41
Atlas and Epitome of Labor and Operative Obstetrics, 41
Atlas and Epitome of the Nervous System and Its Diseases, 41
Atlas and Epitome of Obstetric Diagnosis and Treatment, 42
Atlas and Epitome of Ophthalmoscopy and Ophthalmoscopic Diagnosis, 125
Atlas and Epitome of Special Pathologic Histology, 1265
Bacon, G., Manual of Otology, 526
Bennett, W. H., *Present Position* of the Treatment of Simple Fractures of the Limbs, 653
Bennett, W. H., Use of Massage and Early Passive Movements in Recent Fractures, 653
Bergey, D. H., Principles of Hygiene, 1407
Berry, J., Diseases of Thyroid Gland and Their Surgical Treatment, 212
Boas, I., Diseases of the Intestines, 1407
Brubaker, A. P., Compend of Human Physiology, 1547
Bulkley, L. D., Eczema, 42
Burnett, C. H., Text-book on Diseases of Ear, Nose and Throat, 1623
Butler, G. R., Diagnostics of Internal Medicine, 593
Butlin, H. T., Operative Surgery of Malignant Disease, 1406
Cabot, R. C., Guide to the Clinical Examination of the Blood for Diagnostic Purposes, 849
Chester, F. D., Manual of Determ*inative Bacteriology*, 1331
Church, A., Nervous and Mental Diseases, 1331
Clinical Lectures on Stricture of the Urethra and Enlargement of Prostate, 212
Compend of Diseases of Skin, 42
  of Human Physiology, 1547
Corlett, W. T., Treatise on Acute Infectious Exanthemata, 1331
Cotton, A. C., Lessons in Anatomy, Physiology and Hygiene of Infancy and Childhood, 42
Craig, C. F., Estivo-autumnal Malarial Fevers, 1127
Crazes, Credulities and Christian Science, 526
Dana, C. L., Text-book of Nervous Diseases, 1623
Davis, E. P., Obstetric and Gynecologic Nursing, 1265
Delafield, F., Handbook of Pathological Anatomy and Histology, 1264
Diagnostics of Internal Medicine, 593
Dictionary of Philosophy and Psychology, 1623
Disciples of Esculapius, 1546
Diseases of Anus and Rectum, 592
  of the Intestines, 1407
  of the Nose and Throat, 1408
  of the Respiratory Tract, 1623
  of the Stomach and Their Sur*gical Treatment*, 1406
  of the Thyroid Gland and Their Surgical Treatment, 212
Dorland, W. A. N., American Illustrated Dictionary, 1332
Durck, H., Atlas and Epitome of Special Pathologic Histology, 1265
Eczema, 42
Egbert, S., Manual of Hygiene and Sanitation, 125
Eichhorst, H., Text-book of Practice of Medicine, 1264
Electricity in Medicine and Surgery, 1408
Electrophysics, 1547
Electrotherapy, 1547
Epilepsy and Other Chronic Convulsive Diseases, 848
Essentials of Refraction and of *Diseases of Eye*, 213
  of Surgery, 526
Estivo-autumnal Malarial Fevers, 1127
Estes, W. L., Treatment of Fractures, 592
Evans, D. J., Obstetrics, 42
Extra Pharmacopeia, 41
Freyer, P. J., Clinical Lectures on Stricture of Urethra and *Enlargement of Prostate*, 212
Friedrich, E. P., Rhinology, Larynology and Otology and Their Significance in General Medicine, 526
Goodsall, D. H., Diseases of Anus and Rectum, 592
Gowers, W. R., Epilepsy and Other Chronic Convulsive Diseases, 848
Gray, H., Anatomy, *Descriptive* and Surgical, 1547
Green, T. H., Pathology and Mor*bid Anatomy*, 41
Guide to the Clinical Examination of the Blood for Diagnostic Purposes, 849
Haab, O., Atlas and Epitome of Ophthalmology and Ophthalmoscopic Diagnosis, 125
Hall, F. D., Diseases of the Nose and Throat, 1408
Hand-book of Genito-urinary Surgery and Venereal Diseases, 925
  of Pathological Anatomy and *Histology*, 1264
Health and Hygiene for the Household, 125
Heisler, J. C., Text-book of Embryology, 1407
Hewitt, F. W., Anesthetics and Their Administration, 1265
Howard, L. O., Mosquitoes, 212
Howden, R., Anatomy, Descriptive and Surgical, 1547
Hyde, J. N., Practical Treatise on Diseases of Skin, 42
Hygiene and Public Health, 848
  of Transmissible Diseases, 212
International Directory of Laryngologists and Otologists, 1264
  System of Electro-therapeutics, 1332
Introduction to the Differential Diagnosis of Separate Forms of Gallstone Disease, 1127
Irregularities of the Teeth and their Treatment, 1623
Jackson, E., Essentials of Refraction and of Diseases of Eye, 213
  G. T., Ready Reference Handbook of Diseases of the Skin, 1265
Jacoby, G. W., Electrophysics, 1547
  G. W., Electrotherapy, 1547
Jakob, C., Atlas and Epitome of Nervous System and Its Diseases, 41
Jellet, H., Short Practice of Gynecology, 42
Kehr, Hans, Introduction to the Differential Diagnosis of Gallstone Disease, 1127
Kettley, C. B., Orthopedic Surgery, 653
Key, W., *Physicians' Clinical* Chart and *Fee* Book, 1265
Keysor, W. W., Medicolegal Manual, 41
King, W. H., Electricity in Medicine and Surgery, 1408
Lake, R., International Directory of Larynologists and Otologists, 1264
La Peste Bubonique dans la Republique Argentine, 925
Lectures on Nasal Obstructions, 592
L'Epilessia, 1407
Leffmann, H., Select Methods in Food Analysis, 1407
Les Sourds-Muets en Norvege, 848
Lessons in Anatomy, Physiology and Hygiene of Infancy and Childhood, 42
McCurdy, S. L., Oral Surgery, 41
Makins, G. H., Surgical Experiences in South Africa, 1264
Mallory, F. B., Pathological Technique, 1407
Manual of Bacteriology, 1408
  of *Determinative Bacteriology*, 1331

Manual of Diseases of Children, 1127
of the Diseases of the Eye, 1407
of Hygiene and Sanitation, 125
of Otology, 526
of the Practice of Medicine, 1547
Martin, E., Essentials of Surgery, 526
Martindale, W., Extra Pharmacopeia, 41
Mason, R. D., Office Treatment of Rectal Diseases, 925
Matthews' Physicians' Blue-book, 1407
May, C. H., Manual of the Diseases of the Eye, 1407
Medical Directory of New York, New Jersey, and Connecticut, 848
News Visiting List, 1408
Medicolegal Manual, 41
Medina, A. J., La Peste Bubonique, 925
Montgomery, F. H., Practical Treatise on Diseases of Skin, 42
Mosquitoes, 212
Musser, J. H., Practical Treatise on Medical Diagnosis for Students and Physicians, 790
Nervous and Mental Diseases, 1331
Newcomb, J. E., Text-book on Diseases of the Ear, Nose and Throat, 1623
Nutt, J. J., Health and Hygiene for the Household, 125
Obstetric and Gynecologic Nursing, 1265
Obstetrics, 42
Office Treatment of Rectal Diseases, 925
Operative Surgery of Malignant Disease, 1406
Oral Surgery, 41
Orthopedic Surgery, 653
Osler, W., Principles and Practice of Medicine, 1331
Oughton, C. M., Crazes, Credulities and Christian Science, 526
Parkes, L., Hygiene and Public Health, 848
Pathological Technique, 1407
Pathology and morbid anatomy, 41
Pediatrics, 1547
Phillips, G. M., Hand-book of Genito-urinary Surgery and Venereal Diseases, 925
Physicians' Clinical Chart and Fee Book, 1265
Pocket Account, 1408
Pini, P., L'Epilessia, 1407
Practical Surgery, 1406
Treatise on Diseases of Skin, 42
Treatise on Genito-urinary and Venereal Diseases and Syphilis, 592
Treatise on Medical Diagnosis for Students and Physicians, 790
Present Position of the Treatment of Simple Fractures of the Limbs, 653
Principles and Practice of Medicine, 1331
of Hygiene, 1407
of Surgery, 1331
Prudden, T. M., Hand-book of Pathological Anatomy and Histology, 1264
Rabagliati, A., Aphorisms, Definitions, Reflections and Paradoxes, 41
Ready Reference Hand-book of Diseases of the Skin, 1265
Reference Hand-book of the Medical Sciences, 212
Rhinology, Laryngology and Otology and Their Significance in General Medicine, 526
Richardson, B. W., Disciples of Esculapius, 1546
Robson, A. W. M., Diseases of the Stomach and Their Surgical Treatment, 1406
Rotch, T. M., Pediatrics, 1547
Sajous, C. E. deM., Annual and Analytical Cyclopedia of Practical Medicine, 526
Schaeffer, O., Atlas and Epitome of Obstetric Diagnosis and Treatment, 41, 42
Schamberg, J. F., Compend of Diseases of Skin, 42
Scudder, C. L., Treatment of Fractures, 790
Select Methods in Food Analysis, 1407
Senn, N., Practical Surgery, 1406
Principles of Surgery, 1331
Sheild, A. M., Lectures on Nasal Obstruction, 592
Short Practice of Gynecology, 42
Sternberg, G. M., Text-book of Bacteriology, 1332
Surgical and Medical History of the Naval War between Japan and China, 1022
Applied Anatomy, 593
Experiences in South Africa, 1264
Technic, 1264
System of Physiologic Therapeutics, 1547
Talbot, E. S., Irregularities of the Teeth and their Treatment, 1623
Taylor, F., Manual of the Practice of Medicine, 1547
J. J., Physicians' Pocket Account, 1408
J. M., Manual of Diseases of Children, 1127
R. W., Practical Treatise on Genito-urinary and Venereal Diseases and Syphilis, 592
Text-book of Bacteriology, 1332
of Gynecology, 124
of Nervous Diseases, 1623
of Ophthalmology, 653
of the Practice of Medicine, 1265
on Diseases of the Ear, Nose and Throat, 1623
Transactions of the Indiana State Medical Society, 653
of Medical Association of Georgia, 1264
of Vermont State Medical Society, 925
Treatise on Acute, Infectious Exanthemata, 1331
Treatment of Fractures, 592, 700
Treves, F., Surgical Applied Anatomy, 593
Uchermann, V., Les Sourds-Muets en Norvege, 848
Urinary Diagnosis and Treatment, 1265
Use of Massage and Early Passive Movements in Recent Fractures, 653
Uterine Tumors, 593
Von Esmarch, Fr., Surgical Technic, 1261
Wainwright, J. W., Urinary Diagnosis and Treatment, 1265
Wells, W. H., Manual of Diseases of Children, 1127
Williams, H. U., Manual of Bacteriology, 1408
P. W., Diseases of the Respiratory Tract, 1623
W. R., Uterine Tumors, 593
Wright, J. H., Pathological Technique, 1407
J. W., Text-book of Ophthalmology, 653

DEATHS AND OBITUARIES.

Abbott, Josiah, 1622
Adams, James W., 847
Adkins, Charles W., 790
Alexander, James F., 1476
Allen, Alfred R., 1053
Allen, D. B., 1333
Allen, John W., 1332
Aronstein, Adolph, 710
Ashhurst, Samuel, 1476
Askern, Cort F., 398
Assmus, 87
Atwood, Charles F., 790
Austin, Peter, 1690
Babb, Thomas J., 1053
Bain, Hugh, 987
Baker, Achbor J., 43
Baker, Philip Schaffner, 790
Ballard, Charles W., 1622
Banks, Philo H., 1545
Banta, Westervelt, 43
Barker, William R., 126
Barkley, J. R., 1622
Barnes, James, 1333
Barnes, Thomas Langley, 1545
Barnhardt, John, 458, 527
Barnitz, McPherson, 990
Barrett, Joseph E., 1053
Bassett, M. F., 276
Bates, Wilford J., 1476
Bauer, H., 37
Baughman, John F., 710
Beach, J. C., 342
Beal, George W., 43
Beers, John E., 1690
Beeson, Edward G., 527
Benedict, Albert V., 990
Bennett, Johnson J., 213
Best, J. W. F., 1546
Bibby, James S., 1622
Bigelow, Horace, 1128
Binder, Albert, 1198
Bingham, Frank P., 460
Bishop, Edwin R., 398
Bishop, J. P., 1408
Blackman, William W., 1333
Blackmore, R. D., 1262
Blair, Arthur H., 1406
Blanchard, G. A., 342
Bliss, Abner Franklin, 710
[illegible] S., 1053
[illegible] 1406
[illegible] 60
Bond, E. J., 342
Bond, Thomas, 123
Bosse, 523
Boude, John K., 847
Boynton, R. L., 527
Bradshaw, Benjamin H., 1197
Braman, Aaron N., 214
Brent, Columbus P., 654
Briggs, William H., 43
Brittain, O. C., 1622
Broaddus, C. L., 1622
Brock, John W., 1622
Brown, Charles H., 1128
Brown, John M., 214
Brown, Myron S., 213
Bryan, John, 43
Buck, Erastus J., 43
Bulin, Alexander, 710
Bullard, Gates B., 710
Bullen, Robert F., 1546
Bunn, George B., 1197
Burke, George W., 1128
Burke, Richard H., 1053
Burnap, Sidney Rogers, 790
Burritt, William H., 213
Burroughs, R. Berrien, 847
Bush, Robert T., 1262
Butcher, Samuel, 1198
Butler, William W. S., 654
Caldwell, George B., 527
Caldwell, J. R., 342
Calhoun, H., 276
Callaway, Enoch, 926
Campbell, William J., 43
Carey, M. T., 275
Carpenter, Solomon G., 847
Cawood, Jefferson C., 1545
Chandler, J. A., 276
Chase, F. H., 275
Cheatham, T. J., 276
Cheeseman, Nathaniel S., 848
Cherry, Alfred T., 1053
Chesley, Charles P., 43
Chiarleoni, G., 1619
Chlevitz, J. H., 1328
Christian, George W., 1053
Cilley, Frank H., 1053
Clancy, Thomas J., 398
Clarkson, Charles De Saussure, 790.
Cokenower, Harvey L., 926
Cole, James M., 43
Collins, Elijah T., 1545
Combs, John S., 710
Conway, James H., 213
Cook, T. Hampton, 1622
Cooley, R. N., 276
Cooper, C. E., 342
Cooper, Edwin H., 527
Cornish, A. Aaron, 989
Cory, David Magie, 595
Coulter, Guy, 1477
Crawe, Sr., J. Mortimer, 1262
Crawford, Samuel G., 213
Crenshaw, James C., 594
Crittenden, Thomas P., 1333
Crooker, H. H., 1198
Crooks, Robert L., 527
Crosswhite, John R., 398
Crumrine, Clyde W., 710
Cullen, Frank C., 990
Cuneo, 987
Curwen, J., 213
Dana, Alfred Sanford, 654
Darby, Derrell B., 1197
Davis, Edwin, 1622
Day, Dwight, W., 1476
DeAlvarenga, A. R., 987
Dean, Guy S., 1198
Dean, Harmon J., 1198
De Castro, F., 1543
DeLand, Ebenezer H., 126
De Mericourt, Le Roy, 652
Delap, George W., 847
Delpech, 337
De Rossi, E., 1544
Dever, Burns H., 527
Diefenderfer, E. L., 1262
Dinwiddie, William A., 1332
Dixon, Van Buren, 43
Dodge, John L., 595
Dority, Charles Edward, 1198
Dorsey, Dennis B., 790
Downing, Arthur W., 1546
Downs, Henry M., 527
Dresser, Arthur J., 43
Dunbar, A. W., 342
Duncan, John A., 527
Duncombe, Truman W., 987
Dunning, John D., 1262
Dunphy, James Walter, 990
Duval, Edmund P., 790
Duval, William W., 1128
Eastman, Lewis M., 126
Edes, Richard E., 1546
Edgerton, Edwin T., 1128
Edmonds, Samuel C., 847
Edwards, E. H., 1053
Edwards, George R., 1622
Ehler, J. Augustus, 125
Elgnus, W. T., 847
Eldridge, Stuart, 1476
Elliott, Albert S., 461
Elliott, John A., 1622
Ellis, Ruffin B., 1053
Emerson, Arthur L., 527
Essig, Charles S., 1622
Estes, Edward M., 126
Euler, C., 1046
Evans, I. Newton, 1622
Everhart, John R., 1052
Eversole, Frank R., 461
Ezell, F., 276
Fallor, Benjamin M., 847
Falling, Peter, 1545
Fansel, John J., 1545
Felt, Porter W., 1128
Fick, Adolph, 709
Field, Charles H., 460
Firmen, Lorenzo, 1198
Fish, Timothy S., 527
Fisher, Preston, 990
Fisher, William G., 1128
Flagg, Herbert H., 1053
Flavin, Thomas, 1406
Flesher, Frederick G., 595
Flynn, James Lytton, 1332
Fontorbe, 652
Forrest, Samuel M., 848
Foss, Stephen, 397
Foster, Alson J., 126
Fox, Samuel L., 1546
Frankland, Sir Edward, 1402
Frederick, Albert H., 926
Fricks, Asa T., 527
Fullenwider, J. Arthur, 1262
Fussell, Morris, 276
Fussell, Wiley, 527
Galloupe, J. Abbott, 126
Galvanis, Jules, 1046
Garst, M., 1053
Gear, Webster D., 1198
Geddes, William, 1198
George, James H., 1477
Gibbons, James E., 1622
Gibbs, David A., 1406
Gihon, Albert L., 1404
Gilbert, J. L., 276
Gillett, Philip Goode, 1128
Gillett, William J., 1333
Gobrecht, W. H., 275
Gosselin, Etienne, 790
Graham, Thomas A., 847
Graves, James W., 990
Gray, William M., 1198
Griswold, N. L., 276
Griswold, Richard S., 1052
Groce, L. W., 276
Groess, Edward L., 43
Groff, John H., 126
Gross, Chester L., 1128
Gudgel, John F., 1053
Gulbor, Charles H., 926
Gun, James, 1333
Haase, Charles F., 1198
Hadley, William A., 1053
Haentzsche, J. C., 1401
Hale, Herbert J., 1128
Hameau, 709
Hamer, E. P., 275
Hamilton, Charles H., 1545
Hamilton, Robert S., 1406
Handrick, Franklin A., 927
Harding, William L., 1128
Harkness, H. W., 275
Harmanson, Charles L., 1477
Harper, William B., 927
Harris, J. A., 276
Harris, William F., 1333
Harris, William White, 1690
Hart, John B., 125
Hartmann, Jacob, 595
Hartt, John C., 1622
Harvey, Zachary Taylor, 1476
Hasseltine, Levi, 1622
Hastings, Benjamin F., 213
Hawes, Jesse, 460
Hay, Edward P., 527
Hay, George, 213
Hays, Edgar C., 213
Hays, W. W., 213
Hayt, Charles W., 398
Heflin, Edgar H., 398
Helm, Asbury C., 1333
Hershiser, Henry K., 1053
Hewes, E., 276
Hewetson, Peter, 1262
Hill, Robert M. C., 989
Hinckley, Donald R., 1128
Hines, Francis E., 990
Hoffman, Ernest H., 1053
Holland, 652
Hollenback, Charles E., 848

Holt, William F., 847
Honner, Robert H., 213
Horlbeck, Henry B., 397
Houghton, Henry C., 1622
Houston, James, 213
Howard, Jr., James M., 654
Hoyt, Leslie M., 213
Hudson, William M., 1262
Hunt, Chauncey H., 926
Hurd, John S., 397
Hyatt, B. F., 213
Ireland, Josias A., 847
Irving, William, 43
Jablonowski, G., 1046
Jackson, James Polk, 1545
James, William M., 710
Jelleker, Frank A., 213
Johnson, Ebenezer S., 1545
Johnson, Rezin P., 1053
Jones, Edward, 1546
Jones, Nathaniel M., 461
Jones, Samuel J., 989
Kearney, William J., 1198
Kellner, Max G., 398
Kendall, James V., 460
Kendrick, O. Cyrus, 1053
Kennedy, David, 460
Kerr, J. G., 1128
Kielty, John D., 710
King, Loreston J., 398
King, Richard D., 710
Kirkland, Helen U., 1406
Kittrell, Benjamin H., 595
Krissinger, William R., 213
LaBonte, Louis D., 1198
Lamb, Henry A., 848
Langenbuch, Professor, 37
Laning, John T., 1332
Latter, Leonard, 1198
Laure, G. B., 337
Lawrence, Charles W., Jr., 1128
LeConte, Joseph, 125
Leftwich, T. W., 342
Lemberger, Alfred C., 1053
Lemoine, E. S., 275
Lewis, Aaron, 43
Lewis, R. F., 398
Light, Abia H., 460
Linthicum, T. O., 1477
Little, William S., 710
Littleton, John W., 1333
Litton, Abram, 990
Lloyd, E. Norris, 125
Loeber, Frederick, 1128
Long, George H., 527
Longshore, Hannah E., 1128
Lovatt, John Hammond, 1545
Luckett, Robert L., 710
Lumpkin, John G., 214
MacCormac, Sir William, 1543, 1621, 1688
MacDonald, D. W., 342
Macdonald, Overton F., 458
McBride, Alexander, 595
McComb, Alonzo D., 790
McCombs, James P., 398
McCoy, Thomas W., 927
McCullough, Johnson G., 1622
McDill, David, 1622
McDowell, Hervey, 1406
McEwan, S. W., 276
McJames, James, 926
McKenna, Patrick J., 1622
McKinley, Everett B., 1053
McKinney, David, 927
McLaury, William Platt, 710
McLean, Thomas F., 1546
McLearn, Robert, 1690
McMahan, Samuel W., 847
McMicking, G. M., 1125
McMorrine, R. T., 710
McMurray, G. H., 276
McNutt, John S., 990
McRae, Alexander G., 1053
Maddux, William D., 398
Magee, Hule G., 1053
Magness, George H., 43
Mallery, David J., 1406
Mannakee, *Elisha O.*, 990
Marcley, James Irving, 1476
Markham, Homer C., 654
Markoe, Thomas Masters, 594, 654
Marmion, George H., 1477
Marshall, Moses, 1622
Martin, Robert J., 43
Maseras, A., 1619
Mason, Jefferson M., 1128, 1198
Massie, James B., 654
Mathews, George C., 1053
Mathewson, H. P., 654
Mensch, P. Calvin, 398
Merchants, Harry A., 125
Meyer, John M., 789
Miller, Joshua, 398
Miller, Katherine, 398
Miller, Lawrence, 710
Millener, William S., 1406
Mink, Arthur E., 1332
Mitchell, W. A., 342
Moffat, Joseph, 654
Mohr, C. A., 342
Moncorvo, Professor, 523
Moon, A. S., 342
Moon, Orrin N., 1333
Moore, John R., 1198
Morehead, S. T., 595
Morgan, Henry A., 1476
Morris, James F., 1333
Morse, George M., 927
Muncaster, Magruder, 1622
Munday, J. C., 1622
Murphy, Robert M., 654
Mussey, Reuben D., 1332
Naeher, G., 1328
Naster, G., 1401
Nencki, Marcel, 1260
Nesbitt, Robert Henry, 1128
Newcomb, D. E., 848
Newell, Timothy, 43
Newell, William A., 460
Nichol, William L., 43
Norcross, Joseph N., 1333
Norris, William F., 1405
O'Brien, Junius D., 710
Oelschlaegel, Fred J., 1406
Oglesby, Benjamin A., 461
Ohlinger, Conrad R., 790
O'Reilly, Patrick S., 1545
Orr, John C., 1333
Orton, Charles H., 1332
Orton, George T., 1401
Osborne, Charles B., 1622
Osterstock, Joseph H., 527
Owens, Samuel R., 790
Pacetti, Louis B., 1546
Paddock, Frank K., 460
Page, Thomas, 589
Paine, Charles F., 1546
Palen, Gilbert E., 398
Pape, William Barnsmore, 710
Park, Augustus V., 527
Parker, D. H., 1477
Pearson, Josiah W., 1690
Peck, Melville D., 1332
Perkins, David S., 1622
Pero, J. T., 342
Petty, Charles W., 1053
Phillips, Richard M., 1476
Pitblado, John D., 213
Porter, Dennis W., 1262
Pratt, William F., 927
Prestigar, Torrey T., 1053
Preston, George H., 43
Purcell, Rev. James Bryan, 989
Putney, William R., 1546
Rahauser, George G., 1198
Ramsey, G. D., 342
Raub, H. E., 342
Ravenscroft, Frank H., 710
Raymond, R. O., 1259
Read, Newton S., 461
Remington, W. B., 342
Revell, Henry M., 213
Reynolds, Benjamin F., 43
Reynolds, David C., 1476
Reynolds, Tabor B., 213
Rhett, Robert R., 527
Riggs, Edward E., 1332
Ritchie, Louis Warfield, 790
Roberts, Abel C., 397
Robertson, C. G., 342
Roby, James W. E., 125
Rogan, Andrew J., 990
Rogers, Henry Raymond, 1128
Roussel, J., 397
Roy, Gustavus G., 1197
Ruggles, Mortimer Bainbridge, Jr., 1477
Russell, Leonidas, 397
St. John, Charles, 397
Salitschew, 652
Sanders, Joseph, 1197
Sappington, Thomas, 527
Sargent, Gustavus F., 1406
Scarborough, Joseph C., 1546
Schaefer, L. A., 1477
Schenck, Carl, 1622
Schiff, Gustav, 789
Schmidt, G., 342
Schoonmaker, Simon, 927
Schotfky, Ernest, 1128
Schramm, J., 523
Schuchardt, C., 1401
Sears, John H., 1689
Sell, Jacob, 847
Semple, John, 1128
Sevier, Daniel Vortner, 1622
Shaffer, Howard W., 1406
Shannon, George C., 927
Sharp, J. L., 1690
Shaw, Simeon J., 1690
Shivel, George, 989
Shute, Percy J., 990
Simpson, Alexander N., 1477
Singleton, William, 398
Smith, Ada, 1690
Smith, Alanson T., 43
Smith, Charles M., 1406
Smith, Frank B., 654
Smith, Laurence S., 213
Smith, William C., 43
Snell, Isaac K., 1477
Snyder, William H., 1546
Sosa, S. E., 1543
Southall, J. H., 342
Spalter, Charles M., 1333
Stahl, M. S., 1690
Staley, George Lewis, *Jr., 790*
[illegible] 709
[illegible] *476*
[illegible] 1128
Stokes, J. William, *213*
Stone, Barton W., 1405
Stoner, Andrew J., 1477
Stoner, Charles E., 1197
Stookey, Lyman P., 461
Stuart, Edward P., 126
Swan, George Francis, 1333
Swaving, John C., 1545
Sweeney, George A., 461
Sweetnam, Lesslie M., 1688, 1690
Tabler, J. H., 1128
Taliaferro, Philip A., 126
Taylor, Daniel T., 710
Taylor, J. L., 342
Taylor, Thomas L., 213
Thacker, Ludwell G., 43
Thayer, Daniel E., 989
Thudichum, J. L. W., 844
Todd, Levi L., 1476
Tolman, Harvey P., 1406
Tompkins, Fred J., 527
Touatre, C. Juste, 1476
Trapp, Albrecht H., 926
Trenchard, J. F., 276
Trexler, Jeremiah S., 927
Turner, Agnes, 1476
Turner, S., 126
Turner, *Thomas J., 594*
Tuttle, Hiram P., 1128
Ullrich, William, 1053
Van Dusen, Abram R., 654
Van Eman, William J., 1690
Vankirk, S., 276
Vaucher, 988
Vaughn, W. M., 276
Villard, A., 1619
Vineyard, Wesley A., 1128
Von Coler, 589, 652
Von Liebermeister, K., 1619
Von Widerhofer, Herman, 459, 709
Von Wyss, H., 1046
Voorhees, Charles H., 1197
Wagner, Albert L., 990
Wagoner, Henry G., 213
Waite, Edwin E., 43
Walker, Thomas R., 1053
Wallace, Job S., 990
Wallace, R. Bruce, 847
Walsh, Valentine, 398
Ward, Milo B., 397
Warren, John H., 397
Warren, Mark M., 527
Wason, S. S., 276
Watkins, William W., 460
Watson, Edwin G., 1333
Watson, William A., 397
Watters, Arthur, 1690
Watts, John, 213
Weamer, Charles C., 927
Weaver, J. D., 276
Welch, John H., 398
Wells, George William, 710
Wermuth, Adolph, 1622
West, George W., 398
Westerhold, J. A., 342
Wheeler, John P., 126
Whitcomb, Edwin E., 461
[illegible] 333
[illegible] 1053
[illegible] 126
[illegible] 89
[illegible] 33
Wight, Jarvis S., 1405
Williams, James A., 527
Williams, John R., 790
Williams, Martin H., 213
Williams, Oliver C., 213
Wilson, John W., 213
Windele, Edwin, 1333
Winn, Hiram M., 927
Winn, J. M., 790
Winslow, Frederic C., 1052
Winter, Adolf, 1046
Winter, J. A., 1401
Wise, James H. P., 213
Witherington, William T., 1546
Withers, W. A., 1128
Wolff, L. L., 342
Wood, Lee, 43
Woodbridge, John Eliot, 789
Wooden, David, 595
Woodward, C. Purcell, 1333
Woodward, Horace P., 1406
Wright, Andrew F., 43
Wright, J. W., 342
Wright, Nathaniel P., 990
Wright, Oren C., 398
Wright, William E., 125
Wright, William George, 1546
Wyman, Russell C., 654
Wythe, Joseph H., 1128
Yanez y Font, T., 1328
Yates, Oscar E., 1333
Yemans, Charles C., 397
Young, James T., 213
Zier, Edward B., 1690

DISCUSSIONS.

Abbott, A. C., 46
Abt, I. A., 565, 832
Allaben, J. E., 1235
Allen, C. W., 103, 1596
Allen, S. B., 1266
Allport, F., 1365, 1374
Amberg, E., 188, 242, 251, 322
Anders, J. M., 995
Andrews, R. R., 13, 93, 164, 963, *1233*
Anthony, H. G., 109, 1593
Babcock, R. H., 1341, 1342
Baer, A. W., 1484
Bailey, W., 83, 310, 885
Baker, C. S., 253
Baker, L. H., 192
Baldwin, A. E., 98, 163, 169, 172
Baldwin, J. F., 853
Baldwin, S. C., 637
Baldy, J. M., 319, 368
Bane, W. C., 1696
Barbat, J. H., 793, 1085
Barber, J. P., 449
Baker, E. F., 1248
Barker, L. F., 1412
Barnhill, J. F., *190, 242, 252*
Barr, J. A., 312
Bates, Jr., H., 996
Bateson, J. C., 996
Baum, W. L., 1059, 1414
Beattie, T. J., 495
Beck, C., 1342, 1585
Berens, C., 1202
Berg, H. W., 1554
Bernays, A. C., 498, 636, 1021, 1084, 1463, 1666
Biller, J. G., *1298, 1377*
Billings, F., 884
Black, M., 1374, 1590
Bloodgood, *J. C., 1462*
Bodine, J. A., 1267
Boldt, H. J., *1551, 1552*
Bonifield, C. L., 494, 499
Booth, J. A., 1201
Borland, E. B., 996
Bovaird, Dr., 1696
Bovee, J. W., 24, 318, *369*, 492, 621
Brayshaw, J., 682
Brayton, A. W., 104, 107
Brettauer, J., 1553
Brewer, G. E., 1201
Brothers, A., 1554
Brown, G. S., 1410
Brown, G. V. I., 93, 96, 98, 99, 162, 163, 172
Brown P. K., 465
Brown, S., 1484
Brush, A. C., 1202
Brush, E. F., 832
Bulkley, L. D., 555
Bullitt, J. B., 1464
Bundy, E., 1057
Burnett, C. H., 928, 929
Burns, W. B., 681
Burr, C. B., 1109
Cabot, R. C., 1337
Caglieri, G., 1137
Cameron, I. H., 48
Campbell, D. M., 253, 1249, 1366
Campbell, R. R., 108
Carpenter, E. G., 834, 910, 1110, 1380
Carpenter, *G.* T., 97, 163
Carstens, J. H., 316, 368, 853, 854, 855
Cary, F., 27
Casselberry, W. E., 188, 190, 242, 245, 439
Castle, C. H., 1133
Caston, Dr., 1242
Cates, A. B., 494, 620
Chapin, H. D., 1695
Chase, J., 1696
Chismore, G., 1268
Chittenden, C., 13, 15, 169
Christie, W. H., 85
Clark, C. F., 1250, 1365, 1519, 1590
Clark, J. G., 317, 370
Cleveland, J. L., 136
Cline, L. C., 245
Cobb, C. M., 191, 246, 252, 380
Coe, H. C., 1552
Cohen, B., 492
Colburn, J. E., 1364
Collins, J., 1626
Connor, L., 1366
Cook, J. C., 830, 831, 832
Cook, R. H., 1718
Coplin, W. M., 47
Cordier, A. H., 19
Corlett, W. T., 102, 311, 555
Cotton, A. C., 640, 829

Crafts, L. M., 1297
Crile, G. W., 637, 1022
Crothers, T. D., 1294, 1604
Crummer, B. F., 495
Culver, C. M., 1247
Cumston, C. G., 854, 855
Currens, J. R., 14
Czerny, V., 1268
Dana, C. L., 1200, 1626
Dannaker, C. A., 620
Davis, B. B., 1461
Davis, A. E., 1251
Davis, Jr., N. S., 1342
Dawbarn, R. H. M., 635, 1022, 1231, 1339
Deaver, J. B., 28, 29, 85, 369, 965
Dench, E. B., 253, 322
Dennis, C. J., 13
Dewey, R., 834, 1110, 1298, 1376, 1384
Dickerman, E. T., 240
Dickerson, W. L., 1241
Dickinson, S. W., 1415
Doherty, D. J., 1342
Dougherty, D. S., 1554
Douglas, C., 448
Downes, A. J., 424
Drayton, H. S., 1648, 1651
Drew, C. A., 1377
Dudley, A. P., 198, 360, 370, 1553
Duff, J. M., 319, 896
Dwight, C. F., 312
Earles, W. H., 635
Eastman, J., 197, 424, 498
Eastman, J. R., 1164, 1236
Eastman, T. B., 854
Edebohls, G. M., 1339
Edwards, J., 1266
Eisendrath, D. N., 1164, 1342, 1464, 1665
Ellett, E. C., 1587
Engelmann, G. J., 498, 897
Eskridge, Dr. J. T., 852
Everitt, E. B., 1057
Everts, O., 1377
Ewing, A. C., 450
Fackler, G. A., 136, 1627
Farrell, J. H., 242
Farrell, P. J. H., 246
Ferguson, A. H., 1413, 1414
Ferguson, E. D., 897, 1266
Findley, W. M., 84
Fisher, E. D., 1201
Flexner, S., 46
Flick, L. F., 996
Foster, B., 103, 555, 556
Fraenkel, J., 1201
Frank, J., 634, 1086
Frazier, C. H., 634
Frederick, C. C., 19, 855
Freeman, L., 1629
Freeman, R. G., 1696
Freer, O. T., 182, 245, 379
Frick, W., 556, 1593
Friedenwald, H., [illegible]
Friedlander, A., 136
Fuetterer, G., 1022
Fuller, E., 1235, 1338
Futcher, T. B., 682, 887
Gapen, C., 886
Gasser, H., 1298, 1384
Gibbon, Dr., 1266
Gibbon, R. H., 995
Gillette, W. J., 499
Goffe, J R., 360 435, 1551 1553
Goins, G. W., 312, 682
Golden, I. J. K., 508
Goldspohn, A., 196, 359, 436, 492, 550
Goodkind, M. L., 132, 133
Gordon, S. C., 18, 197, 369, 436
Gould, G. M., 1366
Graham, H. M., 897
Grant, W. W., 1665, 1666
Greene, R. H., 1236
Greiwe, J. E., 1627
Guiteras, R., 1235
Guyon, A. L., 930
Haggard, Jr., W. D., 1409
Haggard, W. D., 1410
Haines, W. D., 683
Hale, A. B., 1249, 1384, 1450
Hall, C. L., 495
Hall, D. M., 681
Hall, F. J., 1443
Hall, J. N., 1629
Hall, R. B., 136, 1409
Hall, W. S., 1648, 1651, 1677, 1718
Hammond, G. M., 1201
Happel, T. J., 311, 312
Hardon, V. O., 1410
Harlan, H., 322, 1366, 1450
Harris, E. E., 995
Harris, M. L., 19, 963
Harris, P. A., 28, 29. 619
Harrison, W. G., 682
Hayd, H. E., 853, 855
Hayden, A. M., 849
Hazen, C. M., 1718
Head, G. D., 449, 503
Heidingsfeld, M. L., 104, 1593
Hendley, F. W., 1131
Henry, W. O., 28, 369, 492, 498, 620
Herrick, J. B., 884, 1585
Hershey, E. P., 1629
Herzog, M., 108
Higgins, F. W., 503
Hotinger, J., 188, 191, 251, 253, 380
Hotz, F. C., 1249, 1368, 1518
House, A. F., 84
Howitt, H., 49
Hubbell, A. A., 1250, 1339
Humiston, W. H., 360, 368, 436, 854, 855
Hyde, J. N., 107, 1596
Ill, E. J., 853
Ingals, E. Fletcher, 182, 191, 241, 1342
Jack, G. N., 241, 897
Jackson, C., 380
Jackson, E., 1250, 1369, 1450, 1519
Jelks, J. T., 1414
Jenkins, G. F., 84
Jepson, W., 1085
Jewett, C., 1269
Johnston, C. H., 449, 507, 831, 832
Jones, A. A., 1266, 1339
Jones, W. A., 910, 1532, 1604
Kelly, S. W., 568, 569, 832, 1086
Kelly, E. E., 1268
Kelly, H. A., 18, 368, 437
Kelly, J. V., 82
Kelly, W. D., 503
Kelsey, C. A., 507, 685
Kiely, W. E., 137
Kiernan, J. G., 96, 98, 1377
Klebs, A. C., 1342
Knapp, H., 1626
Koenig, A., 1056
Kolischer, G., 318, 369
Kramer, S. P., 136, 1130
Kuh, S., 834, 1110, 1384, 1413
Kuyk, D. A., 191, 253
Langdon, F. W., 910, 1110, 1377
LaPlace, E., 1056
Latham, V. A., 13, 93, 96, 97, 98, 162
Le Count, E. R., 1526
Lieberthal, D., 103
Lilienthal, H., 1339
Lillie, C. W., 84, 684, 1289
Livingston, A. T., 1266
Learned, W. T., 1028
Lee, E. H., 1413
Lee, E. W., 1338
Lee, J., 1267
Leeming, J., 1298
Lemon, C. H., 1462
Leonard, C. L., 568, 1463
Leroy, L., 310, 311
Leszynsky, W. M., 1554
Levings, A. H., 1022, 1023
Levy, R., 182, 253, 1414
Lieberthal, D., 1596
Love, I. N., 83
McArthur, L. L., 1164
McBride, J. H., 1604
McCaskey, G. W., 886
McCone, J., 465
McConnel, H. S., 84
McCosh, Andrew J., 637
McCoy, M. K., 897, 1242
McCrea, T., 503
McDermid, A., 196, 437, 896
McKnight, E. J., 637, 962
McLean, A., 633
McMurtry, L. S., 17, 1409
MacDonald, W. G., 850
MacGowan, G., 1234, 1460
Mackenzie, J. N., 380
MacKenzie, K. A. J., 1023
Madden, J., 1647, 1652
Makuen, G. H., 440
Mann, M. D., 24
Marchand, J. F., 312
Marcy, H. O., 24
Martin, Dr., 438
Martin, E. H., 312, 423, 681
Massey, G. B., 19, 198, 318, 423, 1022
Maxwell, T. J., 963, 1463, 1665, 1666
Maxwell, T. M., 636
Mayer, E., 188, 191
Mayer, E. E., 834, 1110, 1380, 1604
Mayo, W. J., 1023
Means, W. J., 636, 1086, 1461
Merritt, G. W., 1203
Meyer, W., 1339
Miller, R. W., 1450
Mitchell, E. W., 137
Moloney, L. A., 136
Montgomery, D. W., 103, 465, 555, 793, 1137
Montgomery, E. E., 198, 318
Montgomery, F. H., 107, 108
Montgomery, L. H., 132, 133
Moore, J. E., 635, 964
Moore, R. C., 1242
Moran, John F., 621
Morris, R. T., 964
Morrow, H., 1136
Moyer, H. N., 135, 833, 1297, 1377, 1483, 1532, 1604
Moulton, H., 1374
Muhlberg, W. H., 136
Munn, W. P., 1629, 1696
Murphy, J. B., 961
Neilson, W. H., 887
Newman, H. P., 424, 499
Newton, R. C., 685, 1288
Noble, C. P., 995
Noble, G. H., 1555
Noer, J., 831, 832, 1028
Nones, R. H., 14
Norbury, F. P., 834, 1086, 1110, 1377, 1409, 1410
Ochsner, A. J., 850
Ohlmacher, A. P., 1443
Oliver, C. A., 1202
Oliver, J. C., 1136
Oren, S. A., 251, 380
Osborne, O. T., 886
Osler, William, 134
Ott, L., 1298
Owen, W. O., 1135
Oyler, P. H., 499
Park, W. H., 1696
Patrick, H. T., 910, 1413, 1531
Paulson, D., 1718
Payne, R., 1202, 1203
Payne, R. W., 241, 251
Pearce, F. S., 910, 1298, 1377, 1604
Peck, A. H., 15
Perkins, Dr., 852
Peterson, F., 1626
Phelps, A. M., 850, 933
Phillips, C. W., 1463
Porter, M. F., 620, 855, 897, 1463
Porter, O. J., 134
Porter, W. D., 621
Porter, W. E., 1553
Powers, C. A., 1023, 1164
Preble, R. B., 886, 1586
Pressey, A. J., 1295
Price, J., 854, 855, 996, 1056, 1057
Price, M., 996, 1056
Prince, A. E., 252, 1249
Pritchard, D. B., 312
Punton, J., 910, 1110, 1295, 1376, 1380
Pusey, W. A., 102, 555
Putney, J., 1652
Quimby, C. E., 1554
Quine, W. E., 885
Quinlan, F. J., 1554
Randall, B. A., 929
Ray, J. M., 1251, 1449
Raymond, F. S., 311
Reed, B., 83
Reed, C. A. L., 1055
Reese, F. D., 499, 1338
Reynolds, D. S., 1364
Richmond, C. B., 1629
Ricketts, M., 28, 276, 620, 854, 855, 1131, 1409
Ries, E., 317, 370, 423, 437
Rigdon, R. L., 1268
Riggs, C. E., 1378, 1380, 1604
Risley, S. D., 1363, 1519, 1671
Robison, J. A., 133, 508, 1342
Rochester, D., 82, 503, 682, 1241, 1242, 1266, 1288, 1339, 1584
Rockey, A. E., 1232
Rodman, W. L., 1022, 1461
Rosenthal, E., 450, 568, 829, 831, 832, 1028
Rosenthal, M., 495
Rosenwasser, M., 853
Ross, J. F. W., 48
Roussel, A. E., 995
Roy, D., 245, 380
Ruth, C. E., 1666
Ryfkogel, H. A. L., 1136, 1694
Sachs, B., 1201, 1626
Salmon, D. E., 1718
Savage, G. C., 1248, 1365, 1384
Schmidt, L. E., 102, 1596
Schwab, L., 682
Schwenk, P. N. K., 1202
Scott, C., 448, 507, 568, 829, 832, 1028
Sears, H. B., 1585
Sewall, H., 1696
Sexton, J. C., 854
Sexton, M. P., 1377
Sherman, H. G., 251
Sherman, H. M., 1136
Sherwell, S., 1267
Shimonek, G. F., 1164
Shurley, B. R., 188, 565, 1028
Slagle, C. G., 507
Smith, A., 28, 370
Smith, S., 1267
Smythe, F. D., 82, 965, 1460, 1586
Solis-Cohen, S., 996
Southard, W. F., 1202
Spalding Heman, 313
Spellman, J. M., 85
Spelman, J. F., 1241, 1242
Stanton, B., 1130
Starkey, H. M., 1369
Steele, D. A. K., 28, 960
Steeves, A., 99
Stewart, W. T., 850
Stockton, C. G., 887, 1337
Stout, G. C., 322, 439
Sturtevant, J. R., 1266, 1337
Suker, G. F., 1590
Sweeney, A., 1384
Syms, P., 1237, 1266, 1338
Tagert, A. H., 637
Tait, D., 793, 1136
Talbot, E. S., 13, 93, 96, 162, 169, 171
Tefft, C. B., 1266
Thomas, J. D., 1460
Thompson, J. L., 1248, 1365, 1519
Thomson, C. E., 1664
Thomson, W., 1202
Thorn, S. S., 850
Todd, F. C., 1248, 1374
Tomlinson, H. A., 834, 1377
Tyler, G. E., 1629
Tyson, J., 995, 996
Turnbull, J. L., 49
Tuttle, J. P., 1267
Upshur, J. N., 1415
Valin, H. D., 1109
Varney, M. E., 1554
Vaughan, J. W., 637
Vaughan, V. C., 448, 682
Veasey, C. A., 1250, 1587
Vineberg, H. N., 1553
Wahrer, C. F., 640, 832, 1028
Walker, E., 853, 933
Walls, F. X., 565, 831
Walsh, J. J., 310, 684, 1337, 1339, 1585
Walton, G. L., 1202
Warner, F., 28, 84, 1233
Warren, W., 507
Wathen, W. H., 198, 369, 550, 896
Watkins, T. J., 28, 370
Way, A. C., 1554
Webster, G. W., 133, 685, 887
Weir, R. F., 634
Wells, E. F., 132, 133
Wells, H. G., 1525
Weymann, M. F., 1364, 1369
Wiggin, F. H., 18, 319, 367, 995, 1266, 1554
Wilder, J. A., 1696
Wilder, W. H., 1369, 1249, 1587, 1590
Willard, D., 1087
Williams, C., 322
Williams, C. H., 1364
Wills, L., 1086
Wilmarth, A. W., 1028
Wilson, L. B., 1677
Witherspoon, J. A., 83
Wood, C., 1590
Wood, C. A., 1059, 1450
Wood, T. F., 449, 507
Woods, H., 323, 1250, 1365, 1449, 1519, 1587
Woods, Jr., H., 251
Woodward, J. H., 1554
Woollen, G. V., 191, 245
Work, J. A., 507, 1028
Wylie, D. B., 1366
Wylie, W. G., 1551, 1552
Zeisler, J., 102, 107, 555
Zinke, E. G., 317, 855

EDITORIALS.

Adrenal diabetes, 1722
  extract for hemophilia, 203
American Journal of Anatomy, 1395
  medical literature, index of, 1722
Anatomy, relational, 836
Anesthesia, teaching of, in medical schools, 778
Animals, impostors among, 333
Ankylostomiasis, 1466
  mode of infection in, 117
Anti-diphtheria serum, tetanus from, 1255
Antitoxin, care in manufacture of, 1323
Antivivisectionists, methods of, 702
Army medical department in active hostilities, organization of, 455
  health of, 1041
Atoms, are they real entities, 914
Atropin in ileus, 269
Atrophy, optic, prognostic significance of, in tabes dorsalis, 392
Babinski, toe phenomenon of, 1611
Authors and medical subjects, 648
Bacilli, identity of human and bovine tubercle, 1185

Bacillus pyocyaneus in newborn, umbilical affection with, 839
Balantidium coli the cause of chronic diarrhea, 518
Banquet, testimonial, to Dr. N. S. Davis, 838
Berlin, quacks of, 982
Birth-rate and death-rate, general decrease of, 1538
  in New England, 331
  low, no cause for alarm, 838
Bismuth, intoxication with, 1395
Bladder, urinary, infection of, 704
Blister-fluid, clinical examination of, 333
Blue urine, 1723
Blunder, proofreader's, 116
Books, multiplication of, 647
British Medical Association, 268
"Burking" up to date, 1186
Burns, pathology of, 1393
Cacodylic acid, therapeutic employment of, 455
Camden, N. J., tetanus cases in, 1539
Camp-followers of science, 1614
Canadian medical profession, 1470
Cancer, novel theory of, 390
Case method of teaching, 777
Cardiac neuroses, so-called, 330
Cellular pathology in the past and future, 1039
Charities, lay control of, 982
Changes in medical schools necessary to meet modern conditions, 773
Chemical pathology, the teaching of, 201
Children, typhoid fever in, 1681
Chinatown, destroy, 1469
Chinese, exclusion of, 1539
Cold applications in tetanus, 1187
Complexions and ability, 837
Criminal advertisements, 393
Criticism, a premature, 836
Cuba, yellow fever experiments in, 839
Cysts, dermoid, or embryomas of ovary, 1184
Danyz virus on rats, effect of, 519
Davis, Dr. N. S., testimonial banquet to, 838
Death certificates after quack treatment, 584
Death-rate, birth-rate and, general decrease of, 1538
Decaying race, a, 33
Dermoid cysts and teratomas of mediastinum, 1723
Diabetes mellitus simulating gastro-intestinal disease, 204
Diagnosis, 1118
Diarrhea, chronic, balantidium coli the cause of, 518
Diphtheria antitoxin, unjustifiable distrust in, 1396
  bacilli, retention of, in ventricles of larynx, 333
  bacilli in throats of healthy children, 393
Diploma mills, 584
Dispensary evil, the, 916
Dog liver oil, 704
Dogs in war, 268
Dystrophy, progressive muscular *morbid anatomy of*, 330
Eclampsia, puerperal, nature and cause of, 646
Eddy literature, example of, 32
Eddyites vs. veterinarians, 204
Elective system in medical school, 769
Enteritis, syphilitic, simulating melena in newborn, 1255
Electrolytic dissociation of inorganic salts into ions, 267
Endocarditis, rheumatic, prophylaxis and treatment of, 1537
Enuresis, nocturnal, in children, 647
Enzymes, reversibility of, 1252
Erysipelas, treatment of, with serum or erysipelatous patients, 1185
Examination in medicine in New York, 585
Faith, delusion, another, 1254
Fame, such is, 393
Fecundity, Jewish, 916
French Medical Association of America, 202
Funk's sporidium vaccinale, 582
Fundamental branches, value of, 770
Gallstones and pancreatitis, 1187
Glandular surgery, progress in, 1468
Globulicidal action of urine, 583
Goiter, exophthalmic, pathogenesis of, 1681
Gonococcus, general infection with, 583
Gonorrhea treated with nitric acid, 31
Guarnieri's vaccine bodies, 1466
Havana's healthfulness, 1186
Hay fever, *etiology of*, 1613
Health inspectors, volunteer, 917
  officers, politics and, 1469
  officers, school for, 269
Heart, hypertrophy of, 1119
Heated term, the, 267
Hemophilia, adrenal extract for, 203
History of medicine, study of, 453
Hospital management, 114
Hypertrophy of heart, 1119
Hypodermic injection, influence of concentration and of number of sites for, 1254
Ileus, atropin in, 269
Illinois medical practice act, 32
Immunity, antitoxic and bactericidal, 516
  can acquired, be transmitted by heredity, 203
Impostors among animals, 333
Indigestion and sin, 1540
Infection of urinary bladder and intestines, 1121
Influenza, clinical diagnosis of, 519
Insane asylums, partisan politics and, 1682
  commitment of, 116
  delusion, definition of, 1539
Insurance against malpractice suits, 1613
Intestine, infection of urinary bladder and, 1121
Ions in physiologic and other processes, 391
Ireland, longevity in, 1683
Journal of the Association of Military Surgeons, 1120
  of Medical Research, 584
Kansas law and medical pretenders, 268
Koch's address and the newspapers, 331
  address, Professor, 266
Laboratories, use and abuse of, 778
Landry's paralysis of descending type, 33
Larynx, ventricles of, retention of diphtheria bacilli in, 333
Laws, medical, enforcement of, 1321
Lay control of charities, 982
Legislation, uniform medical, reciprocity or, 1320
  control of, 1041
Leprosy and the mosquito, 1120
Lombroso on Royal crania, 1255
Longevity in Ireland, 1683
Looking back, 1042
McKinley case, the, English comment on, 918
Malaria, recent Italian investigations on, 201
Malpractice suits, insurance against, 1613
Management of case of the President, 782
Massachusetts, vivisection in politics in, 1254
Medical college associations and *their influence on higher* standard of medical education, 775
  colleges, art of endowing, 200
  course, preparation for, 777
  education better to-day than in past, 778
  education and its recognition by the rich, 32
  education, independence of study and thought in, 768
  educational statistics, 838
  graduates, oversupply of, 270
  legislation, encouraging outlook in, 118
  organization, 30
  organization and the public, 981
  politician and medical statesman, 1467
  profession organizing, 392
  school, elective system in, 769
  school, what should govern student in selection of, 776
  writers, caution to, 1120
Medicine, authority in, 332
  practice of, definition of, 1323
  trades-unionism in, 1468
  university work in, 765
Melena syphilitic enteritis simulating in newborn, 1255
Meningitis, epidemic cerebrospinal, *spread of*, 1468
Microbe flora of mouth of nurslings, 1254
Milk supply in New York, 1042
  undiluted, as food for infants, 393
Moderate drinking and total abstinence, 1396
Mosquito, leprosy and, 1120
Mosquitoes, conveyance of, 453
  the war on, 518
Murder, attempted, of the President, 702
Myocarditis, diagnosis of, 1184
Nation's name, misuse of, 34
Neuritis, alcoholic, 454
New England, birth-rate in, 331
Newspaper as pathologic factor, 205
New York, examination in medicine in, 585
  York hospitals, pathologic institute of, 1120
  York, milk supply in, 1042
  York State Medical Association, 1042
Nitric acid in treatment of gonorrhea, 31
Nobel prizes, awards of, 1613
Noma, etiology of, 117
Nurse, feeing the, 1613
  the unsentimental, 33
Nurslings, *microbic flora of* mouth of, 1254
Official bulletins, the, 704
Ohio Society for Prevention of Tuberculosis, 1394
Osteopaths, limit, to what they profess, 918
Osteopathy, *another victim to*, 1323
  Ohio decision on, 1683
Ovary, dermoid cysts or embryomas of, 1184
Oxalic acid in organism, concerning presence of, 452
Pancreatitis, gallstones and, 1187
Paralysis agitans, pathogenesis of, 520
Paresis, pathogenesis of, 200
Pathogenic agents, on the existence of, too small to be seen, 1610
Pathologic Exhibit at St. Paul, 30
Penny-wise disinfection, 1252
Pension examiners, laxity in, 916
Peripheral nerves, action of toxic serums on, 1682
Philippine Insular Board of Health, 649
Physical culture and medicine, 1612
  therapeutics, teaching of, 916
Physicians, distribution of, 1118
Plague cases, San Francisco, 1186
  in San Francisco, new development of, 204
  the persistency of, 118
Pleura, resorptive powers of, 837
Politics and health officers, 1469
  in state institutions, 917
Porto Rico, vaccination in, 332
Practice of medicine as life-work, what it offers, 774
  of medicine, definition of, 1323
Practitioners, illegal, wrong and right way of prosecuting, 1322
President McKinley's case, official report of, 1040
  McKinley, death of, 779
  no disagreement among those who attended, 782
  shooting of the, 705, 783
  the, attempted murder of, 702
President's case and the newspapers, 705
Priority, a question of, 1610
Pro bono publico, 392
Profession, overcrowded, 775
Prognosis, 915
Quack treatment, death certificates after, 584
Quacks of Berlin, 982
Railway sanitation, 1253
Reciprocity or uniform medical legislation, 1320
Reporting, careless, 917
Research work for undergraduates in medical schools, 766
Royal [illegible] 1255
St. L[illegible] 648
Salts, [illegible] dissociation of, into [illegible] 37
School-teachers, physical examination of, 584
Science, camp-followers of, 1614
Seasickness, 1395
Serum demonstration, accidental, 704
"Shadowing," 839
Shooting of the President, 705, 783
Sleeping-car accommodations, more sanitary, needed, 1253
Specialization by undergraduates, question of, 983
Smallpox, vaccination and, 915
State institutions, politics in, 917
Statutory inconsistency, a, 269
Strongyloides intestinalis in United States, 1683
Sugar, use of, 202
Sunstroke, pathology of, 454
Syphilitic fever, 33
Tabes dorsalis, prognostic significance of optic atrophy in, 392
Tachypnea, nervous, 114
Taxation to tuberculosis, relation of, 982
Teaching by recitation, didactic lecture, the amphitheater clinic, ward class, 771
Tetanus cases in Camden, N. J., 1539
  cold applications in, 1187
  from anti-diphtheria serum, 1255
Text-books in medical curriculum, place of, 773
Tissues, self-digestion of, 1536
Toe phenomenon of Babinski, 1611
Trades-unionism in medicine, 1468
Trained nurse and her position, 982
Tuberculin, 32
Tuberculosis and house infection, 582
  bovine, 648
  bovine, danger of, 519
  experimental, of adrenals, 452
  prevention of spread of, 980
  relation of taxation to, 982
  unsolved problems of, 391
Tumors, infrequency of primary malignant, of mixed types, 980
Typhoid bacilli in blood, presence of, 517
  fever, abenteric, 202
  fever and diphtheria, 117
  fever in children, 1681
  pneumonia, 1322
Tyrosinase, 1612
Ulcer, gastric, pathogenesis of, 1392
Umbilical affection with bacillus pyocyaneus in newborn, 839
Undergraduates, question of specialization by, 983
United profession, a, 517
University work in medicine, 765
Urban concentration, tendency to, 203
Urinary bladder and intense, infection of, 1121
Urine, blue, 269
  globulicidal action of, 583
Vaccinale, Funk's sporidium, 592
Vaccination and smallpox, 915
  in Porto Rico, 332
  question, the, 1680
Vaccinia, cowpox and smallpox, identity of, 115
Vasomotor *influences*, effect of, on constitution of blood, 266
Venereal disease, prophylaxis of, 1536
Virchow, Rudolph, 1038
Vision, economic valuation of, 334
Visitor's observations, 1394
Vitality and chemism, 116
Vivisection in politics in Massachusetts, 1254
War, dogs in, 268
Woman's life, pecuniary value of, 584
Wounds of Presidents Garfield and McKinley, 779
Yale in medicine, 1392
Yellow fever and mosquitoes, 115
  fever, etiology of, 704
  fever experiments in Cuba, 839
  fever investigation by Marine-Hospital service, 916
Zoophile, the shifty, 1539

MARRIAGES.

Adams, John W., 1197
Airth, Henry F., 1404
Allhands, Frank, 1197
Aldridge, Louis Albert, 1052
Anderson, E. C., 275
Anderson, Henry B., 527
Anderson, Joseph W., 1052
Andrews, James A., 1621
Armstrong, Robert B., 1621
Austin, A. B., 1332
Babcock, Stanley C., 1197
Badgley, John A., 1476
Baird, James Bozeman, 1545
Barr, Elmer E., 1621
Barry, William T., 43
Bay, William F., 594
Bear, Lowery H., 1476
Beason, William E., 1197

Beaudoin-Bennett, M. R., 654
Bell, M. H., 527
Benedict, Chauncey M., 1332
Bennett, Basil T., 1621
Bennett, Henry Miller, 1197
Black, W. F., 125
Blair, Henry A., 1689
Blankenhorn, Henry, 926
Boyd, John F., 1197
Brack, Charles E., 42
Brannon, George H., 1332
Brenckle, Jacob F., 1052
Brinkman, George D., 342
Brock, Leslie C., 1476
Bromberg, Perry, 1621
Bullock, William, 42
Bullwinkel, Edward Martin, 1621
Burnham, Edward T., 42
Burns, Frank W., 213
Burton, William E., 42
Bussey, Thomas C., 1262
Butzow, Arthur M., 1545
Calbreath, Claude B., 1689
Cammann, Donald M., 1545
Case, Thomas J., 125
Child, Scott P., 275
Childers, John M., 1545
Clark, Charles Herman, 1197
Clark, Charles H., 1052
Cliffe, Jr., Daniel B., 1621
Cobey, James C., 1404
Cole, Albert M., 1197
Conley, John M., 1052
Connor, Roy L., 1476
Craton, Samuel B., 43
Crawford, Albert C., 1621
Creevy, George Mason, 847
Cuff, William S., 1621
Cutter, Ephraim, 594
D'Ancona, Arnold A., 42
Dale, Frederick Allport, 989
Dameron, John D., 42
Davidson, Joseph D., 1332
Davis, John T., 213
Deem, Hamline N., 1404
Dick, James McFaddin, 1545
Doten, Arthur Chapman, 1262
Doudna, John F., 710
Drake, C. E., 1262
Dunkle, Gaily Barr, 1197
Dusic, J. L., 594
Dyer, Harry Cheney, 1197
Eargle, W. H., 397
Eiselin, Daniel E., 342
Elliott, Arthur R., 1545
Emerson, Arthur G., 125
Estabrook, C. T., 1262
Everett, A. G., 527
Fell, Alexander Gray, 1476
Florentine Frank B., 1621
Floyd, Russell G., 1621
Forman, Charles B., 1621
Fouts, John M., 125
Frazier, Charles Harrison, 654
Freeman, Charles M., 1404
Freemire, Frank N., 1689
Fuqua, John W., 527
Gallmar, Arthur, 1404
Gardner, Joseph E., 926
Garrott, Erasmus M., 43
Gay, Eugene J., 1404
Gibbon, John H., 710
Gilmore, George H., 1197
Grasser, Emil, 847
Gresham, Walter A., 213
Groshans, John H., 460
Haddox, Horace B., 1689
Hall, Charles A., 1197
Hall, Jerome Franklin, 847
Hammond, Samuel Mowbray, 710
Harris, W. A., 213
Harrison, William H., 43
Hart, Theodore S., 43
Heiskell, Sidney O., 43
Henderson, Andrew, 1476
Hess, W. C., 213
Heyn, Daniel S., 1052
Hindley, Martin L., 989
Hirsh, Jose L., 1197
Hobson, Willis Sanford, 1332
Holdsworth, James C., 125
Holland, Griffin W., 275
Holtzendorff, Henry C., 275
Hood, Charles Edward, 1197
Hooe, Abram Barnes, 1476
Horton, Albert S., 989
Hubel, John T., 847
Hudson, T. A., 926
Hughes, Harry Chiles, 1621
Hughes, U. S. G., 1689
Hume, Benjamin L., 1332
Humiston, Charles E., 42
Ijams, Howard A., 847
Irwin, Elmer A., 275
Isham, Ira D., 527
Ives, Augustus W., 460
Jarvis, Fred J., 42
Jaudon, Benjamin, 1621
Jay, Frank Webster, 1689
Jenkins, D. J., 1197
Jobes, Norman E., 1621
Jones, Stafford P., 654
Jones, W. H., 847
Judd, Herman S., 42
Kahn, Charles, 527
Kaye, Percy L., 42
Keown, Thomas W., 710
King, LeRoy W., 847
Lapp, John A., Kilbourn, 1197
Le Sage, Philip, 125
Libby, Arthur Allen, 989
Lochboeler, George J., 275
Lockwood, Sheridan A., 1621
Long, Layton Joseph, 1545
McCarthy, Cornelius F., 989
McCarty, Arnold B., 1404
Macauley, Thomas E., 342
McKernon, James F., 43
Magruder, Alexander F., 43
Malloy, Joseph J., 1621
Malone, Frederick Rowland, 1545
Malone, William Battle, 1197
Manary, Henry C., 1545
Manierre, John T., 1197
Mann, John, 42
Marder, John, 1621
Marlon, George L., 847
Martin, Eugene E., 1332
Markley, Robert W., 125
Marsden, William R., 42
Massie, J. Page, 1621
Matthews, Willard L., 1689
Maxwell, Council H., 1621
Mayland, Martin L., 1689
Meredith, Joseph J., 1621
Merrill, Marie, 594
Metcalf, Eugene, 1197
Millet, Melvin C., 42
Mish, S. Charles, 710
Mitchell, Edward Dana, 1404
Moore, James Clinton, 1621
Moore, James Patrick, 926
Moore, Thomas, 1332
Morris, Joseph A., 847
Morse, William E. H., 125
Mowry, Albert E., 397
Mundorff, George Theodore, 1262
Munoz, Edmund A., 1621
Myers, A. E., 926
Nitze, William A., 42
Nourse, Upton D., 42
Oechsner, Herman, 1689
O'Malley, Thomas J., 926
Ogilvie, R. Woods, 1332
Parker, Claude B., 1197
Pattillo, Richard S., 397
Peterman, Harry E., 1262
Petersdorf, Gustave A., 1052
Peterson, Alfred O., 42
Poore, James Edward, 1052
Porter, George L., 1621
Porter, George W., 125
Porter, Ralph S., 460
Powers, Fred H., 43
Raver, Carl, 42
Rayner, Herbert W., 42
Reder, Augustus Ralph, 1332
Reedy, Ernest S., 847
Reeks, T. Eben, 460
Rendleman, James W., 1404
Renick, William L., 1476
Richardson, William B. S., 847
Roberts, Benson S., 1332
Roberts, Jay G., 847
Rose, Frank L., 275
Royster, Hubert A., 1404
Rucks, William W., 342
Sadler, C. Dave, 1621
Schenck, Samuel W., 1197
Schiller, Leopold, 847
Schuetzler August C., 125
Scott, Jr., James F., 42
Seaman, Gilbert E., 1197
Sedgwick, Julius P., 397
Seidler, August W., 1621
Shoyer, Mayer, 342
Simmons, J. W., 1689
Simpson, Daniel G., 527
Sinsel, Charles A., 43
Slaven, Alexander J., 42
Slicer, John B., 42
Smith, E. Otis, 847
Smith, F. Conger, 847
Snow, Leslie W., 42
Stockwell, Herbert Emmons, 654
Storz, Christian, 989
Stout, Jacob A., 1332
Studley, L. W., 213
Sumpter, William D., 1052
Sweatland, Arthur E., 1545
Taggart, James A., 460
Taylor, Albert H., 1197
Taylor, James E., 847
Taylor, Thompson J., 1476
Terrett, B. A., 1689
Thayer, William Sidney, 847
Thorne, John Mairs, 1621
Tilton, N. F., 213
Todd, John D., 594
Tucker, William Peyton, 1545
Tuttle, John R., 1545
Ulrich, J. Harry, 125
Van Bibber, Armfield F., 1197
Waite, C. H., 42
Wallace, Harvey M., 43
[illegible] 1621
[illegible] 527
Wegefarth, George C., 1476
Wessinger, John A., 1197
West, Claudius W., 1052
White, Albert A., 42
White, George Halleck, 847
Whiteside, Milford J., 1545
Whitten, E. M. 1262
Williams, Allie W., 460
Williams, Charles Winthrop, [illegible]
Wood, Francis Carter, 1197
Wood, Hilliard, 1621
Worthen, Eugene, 342
Wylie, George W., 1197
Yenni, A. S., 1689
Zimmerman, Henry Samuel, 1332

MEDICOLEGAL.

Agent's request, rendering services at, 280
Blood, by whom existence of, may be proved, 1060
  spitting or coughing of, 1344
Board of health can not be controlled by injunction, 716
Brain, condition of, may be shown by photograph, 529
Charitable hospital, risks taken by patient in, 936
Christian scientists, as to their reporting diseases, 404
City not liable for negligence of hospital surgeon, 60
Communications to volunteer physicians, privileged, 936
Compensation for pain and suffering, determining, 404
Compulsory vaccination, authority required for, 861
County board of health, power of secretary of, 795
Crimes against nature—evidence, 1557
Criminal abortion, its seriousness, proof, punishment, 61
Damages for loss of arm after amputation of fingers, 61
Deaths, expressions showing expectancy of, 1698
Discretion as to allowances for care of sick, 280
Dislocation, surgeon prevented from reducing, 1417
Dying declaration, what it is admissible to show, 344
Eddyites, mental soundness of, 1631
Employes, medical attendance for, 1698
Examination by expert oculist and aurist, requiring of, 794
Expert evidence, restriction of, in will cases urged, 597
Failure to make physician witness, 60
$15,000 for death of physician, 999
Flesh injury to foot, $2000 for, 1344
Free treatment, cannot bind state by promise of, 1072
Gestation, period of, 1060
Health officers, bases of recovery for services as, 657
Hip injury, $15,000 for, 1344
Imbecility, admissibility of non-expert opinion as to, 999
Improper treatment, aggravation of injury by, 1417
Injuries, $15,000 too much for, 597
  showing extent of, by movement of arm, 597
  to child, $20,000 for, 344
Injury case, admissible evidence of physician in, 1557
  permanent, physician's evidence of, 1557
  proof of, records, as to continuing, 530
  proof of, to "reasonable certainty," 936
Insanity as defense to crime, 1698
Kleptomania, opinions of experts, 1344
Knee, $300 for injury to, 1487
Leg, $8000 for loss of, below knee, 1344
Legs, $1500 for loss of, 529
  $1000 for breaking of, 716
Liability for neglect of patient during vacation, 405
  of married women for doctor's bills, 467
  of physician in local option territory, 1630
Libelous and not privileged communications, 344
License a "right," validity of act as to revoking, 657
Local option territory, liability of physician in, 1630
Malpractice case, requirements of, 530
  liability for negligence in amputation, 1487
  litigation, court terminates lengthy, 936
  sufficient evidence of, to go to jury, 61
Marriage to syphilitic, grounds for annulment of, 936
Medical book, reputation for skill as abortionist, 658
  examination, occurrences at, as evidence, 999
  examiner a general agent—fraud of, 1487
  examiner, and statements as to health, 1073
  examiner's knowledge—serious illness, 404
  preparations, right to make and use, 280
  services, data required to recover for, 716
  treatment, not required to refund cost of, 861
Mental injury from wilful wrong, 861
  suffering only, changes about allowing for, 468
[illegible] n procuring of, 139
[illegible] recovery for, 1072
Paid medical expert testimony of, 861
Passed suffering, statement of injured persons as to, 716
Personal injury case, particulars required in, 1204
Pesthouse, liability for injury of property by, 716
Physicians' claim, nature and limitations of, 1417
Poison case, attending physician as witness in, 794
Police power to regulate practice of medicine, 344
Postmort[illegible] fixing of [illegible] 1344
Powder [illegible] jurisprudence, 1000
Pregnant passenger, liability for injury to, 1487
Private examination by selected physician may be ordered, 467
Provision of law as to examination upheld, 1417
Quarantine power not authority to buy vaccine matter, 280
Rape case, no physician in attendance at trial of, 1204
Responsibility for crime, test of, 1698
Right to have hand examined by physician, 1487
Sanity, non-expert witness in inquiries as to, 860
School trustees must enforce board of health orders, 467
"Serious illness" in contract of life insurance, 999
Skill required; consultation; diagnosis; harshness, 1061
Skull and photograph admissible in evidence, 936
Smallpox suspects, city not liable for detention of, 1698
Specialist allowed his bill for "first" treatment, 1558
State board of health, disciplinary power of, 597
Summoning of surgeon by conductor of wrecking crew, 999
Survivorship, opinion evidence on, 1631
Temporary indigestion and informal consultation, 1204
Things patient may rely on—conflicting evidence, 1557
Twenty-five thousand dollars too large an award, 716
Unborn child, no damages recoverable for injuries to, 860
Validity of law requiring so much fat in cream sold, 139
Wife as witness to contract, physician calling, 1061
Woman's life, pecuniary value of, 597
X-ray photographs—notice of taking, 1631

SOCIETIES.

Aberdeen District (S. Dak.) Medical Association, 44
Aesculapian Society of the Wabash Valley, 1336

- Albany County (N. Y.) Medical Association, 1129
- Alumnæ Association of the Northwestern University Woman's Medical School, 44
- Alumni Association of the Medical College of the State of South Carolina, 44
- American Academy of Railway Surgeons, 849
  - Association of Obstetricians and Gynecologists, 398, 853
  - Electro-Therapeutic Association, 398, 927, 994
  - Orthopedic Association, 44
  - Proctologic Society, 45
  - Public Health Association, 398, 930
- Arizona Academy of Medicine, 1479
  - Medical Association, 44
- Arkansas Colored Medical Association, 595
- Association of French-Speaking American Physicians, 1192
  - of American Medical Editors, 44
- Baltimore and Ohio Association of Railway Surgeons, 43
- Birmingham (Ala.) Medical Library Association, 1480
- Boston (Mass.) Medical Society, 1551
- Brainard Medical Society, 276
- Brazos Valley (Texas) Medical Association, 1693
- British Columbia Medical Association, 523, 789
  - Congress of Tuberculosis, 38, 123, 381, 590, 931
  - Medical Association, 523
- Bucks County (Pa.) Medical Association, 1408
- Buffalo Academy of Medicine, 44, 276, 1693
- Butler County (Ohio) Medical Society, 1693
- California Academy of Medicine, 464, 792, 1136, 1694
  - Northern District Medical Association, 1480
- Calhoun County (Mich.) Medical Association, 1693
- Canadian Medical Association, 273, 711
  - Nurses' Association, 1125
- Cass County (Tex.) Medical Association, 1408
- Cedar Falls (Iowa) Medical Society, 1129
- Central (Conn.) Medical Association, 1129
  - District (Iowa) Medical Society, 44
  - Illinois District Medical Association, 1265
  - New York Alumni Association of the Albany Medical College, 1336
  - Wisconsin Medical Society, 464
- Chicago Academy of Medicine, 1059, 1412
  - Electro-Medical Society, 131
  - Gynecological Society, 1199
  - Medical Society, 1341, 1483
  - Pathological Society, 138
  - Society of Internal Medicine, 132
- Chickasaw (I. T.) Medical Association, 214
- Cincinnati Academy of Medicine, 136, 276, 1054, 1130, 1626
- Claiborne County (Tenn.) Medical Society, 927
- Clark County (Ind.) Medical Society, 1479
- Clinical Society of Washington, D. C., 1199
- Colorado State Medical Society, 131, 137
- Congress of Czech Physicians and Naturalists, 273
- Corsicana (Tex.) District Medical Association, 1129
- Council Bluffs (Ia.) Medical Society, 528
- Crow River Valley Medical Society, 464, 1693
- Cumberland County (N. C.) Medical Society, 214
- Dallas (Tex.) Medical and Surgical Society, 214
- Davenport (Iowa) Clinical Society, 1625
- Delaware County (Ind.) Medical Society, 1693
- Denver and Arapahoe Medical Society, 1414, 1629, 1696
- Des Moines Pathological Society, 1624
- Des Moines Valley (Ia.) Medical Association, 43
- Detroit (Mich.) Academy of Medicine, 1129
  - Physicians' Association, 1336
- Dodge County (Neb.) Medical Association, 1336
- Donley County (Tex.) Medical Society, 595
- Dorchester (S. C.) Medical Association, 44
- Douglas County (Minn.) Medical Society, 849
- Duluth-Superior Academy of Medicine, 1624
- East Los Angeles (Cal.) Physicians' Club, 1408
- Eastern Oregon District Medical Society, 1624
- Egyptian International Medical Congress, 337, 589, 922
- El Paso County (Tex.) Medical Society, 1129, 1199
- Elkhart County (Ind.) Medical Association, 215
- Erie County (N. Y.) Hospital Alumni Association, 528
- Fergus County (Mont.) Medical Association, 595, 1129
- Fifth District Branch of the New York State Medical Association, 1265
  - International Congress of Criminal Anthropology, 214
- International Congress of Zoology, 927
- Franklin County (Pa.) Medical Society, 398, 1408, 1480
  - District (Mass.) Medical Society, 655
- Fox River Valley (Ill.) Medical Association, 1624
- French-American New England Medical Association, 1054
  - Congress of Alienists and Neurologists, Eleventh, 655
  - Congress of Gynecology, Obstetrics and Pediatrics, 11[illegible]
  - Congress of Hypnology and Psychology, 593
  - Congress of Otology and Laryngology, 274
  - Congress of Surgery, 397
  - Congress of Urology, 589
- Fulton County (Ill.) Medical Society, 1054
- Gallia County (Ohio) Medical Society, 595
- German Association for the History of Medicine, 1260
  - Congress of Dermatology, Seventh, 38
  - Congress of Gynecology, Ninth, 47
  - Congress of Physicians and Scientists, 1328
  - Orthopedic Society, 523
  - Practitioners' Association, 338
- Grand River (Mo.) Medical Society, 1624
- Greene County (Ohio) Medical Society, 1054
- Grundy County (Ill.) Medical Society, 1408
- Guthrie (Okla.) Medical Society, 1129
- Hamilton (Ontario) Medical Society, 987
- Harrison (Pa.) Academy of Medicine, 1550
- Harrison County (Tex.) Medical Society, 1054
- Hartford County (Conn.) Health Officers' Society, 463
  - (Conn.) Medical Society, 1408
- Henderson County (Ill.) Medical Association, 1408
- Hennepin County (Minn.) Medical Society, 44
- Holyoke (Mass.) Medical Society, 1129
- Huntington County (Ind.) Medical Society, 849
- Idaho State Medical Society, 1129, 1199
- Illinois Association of Military Surgeons, 44
- Ingham County (Mich.) Medical Association, 1336
- Inland Empire (Wash.) Clinical Society, 1129
- Inter-County (Wis.) Medical Society, 1479
- International Congress of Family Assistance, 1054
  - Congress for Obstetrics and Gynecology, 1126
  - Congress of Life Insurance Examiners at Amsterdam, 1549
  - Congress of Nurses, 849
  - Congress of Physiology, 1046
  - Congress on Seasickness, 459
- International Congress of Tropical Diseases, 1126
  - Quarantine Congress, 986
  - Society for Sanitary and Moral Prophylaxis, 208
- Inter-Urban (West Superior and Duluth) Medical Association, 1550
- Iowa State Association of Railway Surgeons, 1199
- Italian Congress of Internal Medicine, Eleventh, 208
  - Congress of Pediatrics, 273, 561
- Jackson County (Mo.) Medical Society, 1129
- Jacksonville (Ill.) Medical Club, 1053
- Jefferson County (Tenn.) Medical Society, 1129
- Jersey County (Ill.) Medical Society, 1054
- Johns Hopkins Hospital Medical Society, 133, 1340
- Kern County (Cal.) Medical Society, 927
- Knox County (Tenn.) Medical Society, 849
- Laclede County (Mo.) Medical Society, 343
- Lake County (Ohio) Medical Society, 1053
  - Keuka (N. Y.) Medical and Surgical Association, 595
- Lehigh Valley Medical Association, 464
- Lenawee County (Mich.) Medical Society, 1199, 1409
- Little Rock (Ark.) Medical Society, 1336
- Louisville Society of Medicine, 849
- McKean County (Pa.) Medical Society, 1129
- Mahaska County (Iowa) Medical Association, 1408, 1550
- Mahoning County (Ohio Medical Association, 994
- Maine Academy of Medicine and Science, 1479
  - Medical Association, 44
- Manchester (N. H.) Medical Association, 43
- Manila (P. I.) Medical Society, 1259
- Marion County (Ohio) Medical Society, 1693
- Massachusetts Medical Society, 44
- Medical and Chirurgical Faculty of the State of Maryland, 1200, 1408, 1479
  - Association of Hawaii, 1550
  - Association of Northern New York, 1129
  - Association of the District of St. Francis, 273
  - Club of Philadelphia, 927
  - Graduates' Society of Bishop's University, Montreal, 1409
  - Society of New Brunswick, 273
  - Society of Rush College, 1627
  - Society of the City Hospital Alumni, St. Louis, 1408, 1479
  - Society of the Missouri Valley, 595, 927
  - Society of the State of Pennsylvania, 927, 994, 1055
  - Society of the Woman's Medical College (Baltimore), 1265
  - Society of Virginia, 1415
- Medico-Psychological Association of Great Britain and Ireland, 273
- Middle Tennessee Medical Society, 1[illegible]
- Military Tract (Ill.) Medical Society, 1265
- Minnesota Academy of Medicine, 1053
- Minnesota Valley Medical Association, 1624
- Mississippi Valley Medical Association, 398, 792, 849, 932
- Missouri State and County Board of Health, 927
- Montgomery County (Ill.) Medical Society, 1054
- Montgomery County (Ohio) Medical Society, 1693
- Montour County (Pa.) Medical Society, 849
- Muldraugh Hill (Ky.) Medical Society, 528
- Multnomah County (Ore.) Medical Society, 464
- Muskingum County (Ohio) Medical Society, 994
- National Association of Hospital Superintendents, 849
- Nebraska State Medical Society, 274
- New Castle County (Del.) Medical Society, 1624
  - Hampshire Surgical Club, 710
  - Jersey State Medical Society, 131
  - York Academy of Medicine, 1625
  - York Academy of Medicine, Section of Otology, 1339
  - York Academy of Medicine—Section on Pediatrics, 1695
  - York County Medical Association, 1553
  - York Neurological Society, 1200
  - York Obstetrical Society, 1269, 1551
  - York State Medical Association, 131, 1199, 1266, 1337
- North Missouri Medical Association, 44
- Northern Aroostook (Maine) Medical and Surgical Society, 131
  - Berkshire Medical Society, 927
  - Central Illinois Medical Association, 1624
  - Congress of Surgery, 337
  - Tri-State Medical Association, 464
- Northwest Arkansas Medical Society, 1693
- Northwestern University Medical School Alumni Association, 131
- Ohio Society for the Prevention of Tuberculosis, 1409
- Oklahoma Territorial Medical Association, 1265
- Omaha Medical Society, 851
- Omega Upsilon Phi Fraternity (Medical), 710
- Onondaga County (N. Y.) Medical Association, 343
- Ontario Medical Association, 48
- Oregon State Medical Society, 1054
- Panhandle (of Texas) Medical Society, 131
- Perry County (Ohio) Medical Society, 214
- Perth Amboy (N. J.) Medical Society, 1053
- Petersburg (Va.) Medical Faculty, 1550
- Philadelphia County (Pa.) Medical Society, 927
  - Pathologic Society, 46
- Piscataquis County (Maine) Medical Association, 654
- Plant System Medical and Surgical Association, 1480
- Practitioners' Club (Jersey City, N. J.), 131
- Reading (Pa.) Medical Society, 710
- Rock County (Wis.) Medical Society, 1693
- Rock Island County (Ill.) Medical Society, 1336
- Rockland County (N. Y.) Medical Association, 849
- Rocky Mountain Interstate Medical Association, 852
- Royal College of Surgeons, 1620
- Rutland County (Vt.) Medical and Surgical Society, 215
- St. Francis (Quebec) Medical Association, 789
  - Louis Academy of Medicine, 1336, 1693
- San Angelo District (Texas) Medical Society, 1054
  - Francisco Academy of Medicine, 1482
  - Francisco County Medical Society, 1267, 1628
  - Francisco Medical Society, 932
  - Francisco Society of Eye, Ear, Nose and Throat, 1202
  - Joaquin Valley Medical Association, 1129
- Sangamon County (Ill.) Medical Society, 1479
- Scott County (Iowa) Medical Society, 343
- Seaboard Medical Association of Virginia and North Carolina, 1624
- Sioux Valley Medical Society, 215
- Society of Alumni of Medical Department of the University of Pennsylvania, 44
- Somerset County (Pa.) Medical Association, 1336
  - County (Maine) Medical Association, 215
- South Dakota Medical Society, 44
- Southern California Medical Society, 1129

Southern Colorado Medical Association, 1479
  Kentucky Medical Association, 1199
  Manitoba Medical Society, 1129
  Minnesota Medical Association, 464
  Surgical and Gynecological Association, 1409, 1480, 1554
Southeastern Iowa Medical Society, 1693
Southwestern Minnesota Medical Society, 398
  Tri-State Medical Society, 1054
Stafford District (N. H.) Medical Society, 1129
State Medical Society of Wisconsin, 134
Stephenson County (Ill.) Society of Physicians and Surgeons, 276
Students' Obstetrical Society of the Louisville Medical College, 1408
Summit County (Ohio) Medical Society, 1693
Syracuse (N. Y.) Hospital Association, 849
Tennessee Valley Medical Association, 1129
Territorial Medical Society of Hawaii, 651
Texas State Association of Health Officers, 528
Thumb (Mich.) Medical Society, 1479
Thurber Medical Association, 1054
Toronto Clinical Society, 987, 1619
Trenton (N. J.) Medical Library Association, 654
Tri-County Medical Association of Iroquois, Ford and Vermilion Counties (Ill.), 1624
  Medical Society of Monterey, Santa Cruz and San Benito Counties (Cal.), 1550
  Medical Society of the State of California, 1693
Tri-State Medical Association of Mississippi, Arkansas and Texas, 1550
  Medical Association of Western Maryland, West Virginia and Western Pennsylvania, 398
  Medical Society of Alabama, Georgia and Tennessee, 654, 711, 1129
Tyler County (Texas) Medical Association, 1624
Ulster County (N. Y.) Medical Association, 131
Union County (Ohio) Medical Association, 131
  District Medical Association of Indiana and Ohio, 1265
University of Chicago Medical Club, 1625
  of Chicago Medical Society, 1199, 1411
  of Pennsylvania, Department of Medicine, 44
Upper Peninsula Medical Society, 215
Utah County Medical Society, 214, 1054
Vermilion County (Ill.) Medical Society, 1408
Vermont State Medical Society, 710, 1129
Vienna Medical Club, 1543
Wabash Railway Surgeons' Association, 1479
Wabasha County (Minn.) Medical Society, 343
Walla Walla Valley (Wash.) Medical Society, 1054
Washington County (Md.) Medical Society, 1479
  State Medical Society, 131
Washoe County (Nev.) Medical Association, 464
Wayne County (Ind.) Medical Society, 276
  County (Mich.) Medical Society, 1054
West Chicago Medical Society, 44
  Texas Medical Association, 133
Western Surgical and Gynecological Association, 1550
White County (Ill.) Medical Association, 1129
Williamson County (Tex.) Medical Society, 214
Will's Hospital Ophthalmic Society, 1202
Wisconsin State Medical Societies, 131
Wood County (Ohio) Medical Society, 276
Wyoming County (N. Y.) Medical Association, 276
  State Medical Society, 1129

THERAPEUTICS.

Abortion, 1557
Absorption of drugs by the bladder, 657
Acne in young, 794
  rosacea, 596
  vulgaris, 714
Agalactia, 1557
Albuminuria, acute, after scarlet fever, 1486
Alcohol and tobacco habits, prescriptions for, 1271
Alcoholism, 999
Alkaline douches, hot, in inflammatory diseases of uterus, 216
Alopecia areata, 1630
Amyl nitrite in seasickness, 140
Anemia, secondary, 793
Anesthesia, local, in the ear, 998
Angina pectoris, glonoin in, 59
Antipyrin in chorea, 1697
Antisepsis in gastro-intestinal disturbances, 215
Appendicitis, 528, 715, 1137
Asphyxia by drowning, 60
Aspirin as substitute for salicylates, 595
Breasts, diseased, proper method of bandaging, 935
  during pregnancy and lactation, 859.
Bronchitis, 1059, 1060
Bubo, 528
Burns, 215, 596, 793
Calcium chlorid for menorrhagia, 1137
Calomel as purgative, best way of prescribing, 529
Camphor in treatment of varicose ulcers, 715
  treatment of ulcers with, 1138
Cancer of larynx, palliative treatment of, 793
Carbolic acid in treatment of eczema, 596
Carcinoma of skin, 60
Catarrhal conditions of female genital tract, 1137
Chalazion, 793
Chancre, simple, 1630
Chilblains, 1697
Children, arthritic eczema in, 1698
Chloretone in pertussis, 595
  in surgery, 1416
Chordee, 528
Chorea, antipyrin in, 1697
  sodium cacodylate in, 999
Cocain in treatment of pain in gastric ulcer, 998
Colchicum, comparative value of the seed and root of, 793
Compresses, alcohol, in appendicitis, 715
Constipation, 279, 794
Cornea, dionin in diseases of, 59
Corns, salve to remove, 714
Coryza, acute, 715
Cough in tuberculosis, prescription for, 528
Cystitis, 715
Dandruff, 794
Dental caries, 1556
Dentifrice, astringent, 1344
Diarrhea in children, 140
  in typhoid, prescription to check, 1272
  obstinate, of tuberculosis, prescription for, 715
  of typhoid, 404
  summer, of children, 216
Diabetes, 1416
Dionin in diseases of cornea, 59
Diphtheria, convalescent stage of, 1557
Drowning, asphyxia by, 60
Dysentery, sulphur in, 794
Dysentery, 215, 1271
Ear, furuncle in, 998
  local anesthesia in, 998
Eczema, 215, 466, 715, 1486
  arthritic, in children, 1698
  carbolic acid in treatment of, 596
Empyema, 934
Epistaxis in old people, treatment of, 597
Ergot after labor, use of, 999
Erysipelas, 656
Female genital tract, catarrhal conditions of, 1137
Fissure of nipples, 794
Freckles, 60
Frost bite, 1697
Furuncle in Ear, 998
Galactorrhea, 860
Gastralgia, 1416
Gastric fermentation, 466, 998
Gastritis, acute, prescription for vomiting of, 794
Gastritis, menthol in, 998
Gastro-intestinal disturbances of infancy, 343
Glaucoma, 140, 1416
Glonoin in angina pectoris, 59
Goiter, 466, 1630
Gonorrhea, 1137
Gout, 59
Hair, prescription to prevent shedding of, 596
Hay fever, 278, 466
Hay fever, trichloracetic acid in, 596
Heart disease, 60
Hemorrhage, 1556
Hemorrhoids and ulcers of rectum, 794
Hemorrhoids, 279, 466, 1272
  treated by zinc chlorid, 1486
Hepatic disorders, functional, 1344
Hepatitis, malarial, 998
Hernia, umbilical, 657
Herpes zoster, 1272
Hot fomentations, method of applying, 1272
Hyperchlorhydria, 793
Hysteria, prescription for insomnia of, 794
Idiosyncrasies toward drugs, 1629
Inebriety, outside of hospitals, 528
Influenza, 1557
Insomnia of hysteria, 794
Iritis, specific, 1137
Jaundice, catarrhal, 1343
Labor, use of ergot after, 999
Lanugo and hairs, 656
Leg ulcers, 596
Lentigo, 60
Locomotor ataxia, 935
Mania, acute, 1343
Mastitis, 860
Medicines administered combined and individually, 1697
Meningitis, 716
  tubercular, sedative in, 656
Menorrhagia, calcium chlorid for, 1137
Menthol in gastritis, 998
Methylene blue in smallpox, 1416
Milk, deficiency of, 1557
Mosquito bites, 140
Mucous patches, specific, 279
Mustard in pneumonia, 794
Nephritis, scarlatinal, 715
Neuralgia, 1343
Neurasthenia, 529, 1137
Night sweats in tuberculosis, 1698
Odynophagia, orthoform to mitigate, 1630
Orthoform to mitigate odynophagia, 1630
Otitis media, suppurative, 140
Otorrhea, 1630
Paraldehyde and trional as hypnotic, 1138
Paralysis agitans, exercise in, 596
  agitans, 715
Paroxysms in pertussis, 596
Pelletierin tannate in tapeworm, 657
Peritonitis, tuberculous, 715
Pertussis, 595, 596, 656, 1272, 1697
Petroleum, acute articular rheumatism treated by massage with, 1487
Pharynx, specific ulceration of, 528
Pityriasis of face and eyebrows, 935
Pleurisy, purulent, 934
Pneumonia, croupous, 998
  mustard in, 794, 935, 1203
Pregnancy, hyperemesis of, 59
Prescription writing, 1343, 1415, 1485, 1556, 1620
Prickly heat, 279
Prostatitis, chronic, local treatment of, 998
Pruritus ani, 596
Pruritus, 935, 998
  pudendi, diabetic, 1137
  vulvæ, 935
Psoriasis, 999
Puerperal eclampsia, 59
Rectum, hemorrhoids and ulcers of, 794
Rheumatism, 595, 999, 1487
Rhinitis, acute, 1486
Rhus toxicodendron poison, 596
Salivation following ether narcosis, 657
Salol in smallpox, 1416
Santonin in tabetic pains, 140
Scarlatina, graver forms of, 1556
Scarlet fever, throat in, 1272
Sciatica, 60
Seasickness, amyl nitrite in, 140
Smallpox, 1416
Sodium bicarbonate in vomiting of pregnancy, 140
  cacodylate in chorea, 998
  formate in pneumonia, 935
Sore throat, 1272
Sparteln, proper method of using, 998
Stomach, ulcer of, 466
Stricture, 1630
Sulphur in dysentery, 794
Synovitis, rheumatic, 935
Tabes dorsalis, 657
Tabetic pains, santonin in, 140
Tannin and bromin in pruritus, 998
Tapeworm, 139, 529
Tenia solium, 139
Tetanus, carbolic acid in, 1343
Throat, in scarlet fever, 1272
Thrush complicating dentition, 467
Tic douloureux, 1343
Tinea tonsurans, 596
Tobacco and alcohol habits, 1271
Tonic and eliminant in infectious diseases of children, 59
Tonsillitis, 1630
Toothache, 467
Toxemia of pregnancy, 999
Tracheo-bronchitis in children, 1486
Trichloracetic acid in hay fever, 596
Trional and paraldehyde as hypnotic, 1138
Tuberculosis, intestinal, in infants, 657
  cough and pain in, 1137
  night sweats in, 1698
Typhoid in children, treatment of, 466
Typhoid, 403, 1272
Ulcer, gastric, cocain in, 998
  gastric, 216, 466
  varicose, 596, 935
Ulceration, specific, of pharynx, 528
Ulcers treated with camphor, 715, 1138
Umbilical cord, 140
Uterus, inflammatory diseases of, hot alkaline douches in, 216
Vaginal diseases, 1344
Vomiting of pregnancy, sodium bicarbonate in, 140
Warts, 60, 1416
Whitlows, 934
Zinc chlorid, in hemorrhoids, 1486
Zona, 1272

AMERICAN MEDICAL LITERATURE

INDEX OF TITLES

Explanation: This index covers titles and subjects of original articles published in the medical journals of the United States and Canada during the past six months. The titles, and the journals in which they appeared, were published weekly in the Current Medical Literature department, to which references are made. The figures in ( ) refer to the paragraph; the number following, to the page in The Journal. For instance, "Abdomen, gunshot wounds of, (119) 1274" refers to page 1274 of The Journal, on which is found opposite paragraph 119, the title of paper and name of author, viz., "Gunshot Wounds of the Abdomen. E. F. Robinson." This title is listed under the journal in which the article appeared: "Kansas City Medical Record, October." Titles of articles which appeared in The Journal are indicated by an asterisk (*) before the page number.

Abdomen, contusions of, (87) 1419
  gunshot wounds of, (119) 1274
  pendulous, operation for relief of, (126) 1206
Abdominal and pelvic pathology, nerve reflexes due to, (145) 1063
  cases, report of, (128) 142
  cavity, bile in, (9) 598
  cavity, foreign bodies accidently left in, (130) 1206, (55) 1488
  disease, right-side, cases of, (21) 141
  incisions, on making and closing, (162) 1206
  operations, drainage after, *20
  operations, pus in, (38) 598
  operations, technic of aseptic, (67) 937
  section, hernia ten years after, (129) 1062
  sections in general practice, (47) 62
  sections, urinary analysis in, (138) 1206
  surgery, some thoughts on, (109) 1206
  viscera, demonstration of model of, (58) 406
Abortion as a disease and a crime, (117) 1419
  criminal, (121) 1001
  infection as etiologic factor in, (80) 1062
  management of, (94) 1632
  resulting in acute septicemia, (129) 1001
  streptococci infection complicating, (127) 599
  treatment of, (45) 598, (60) 1139
  tubal, (76) 141
  uterine hemorrhage following, (131) 1001
Abscess, appendicular, (22) 217
  brain, cases of, (70) 1345
  cerebellar, (61) 469
  cerebral, (8) 468
  congenital, of internal genitals, (29) 937
  dissecting, of abdominal wall, producing deformity, *1458
  epityphlitic, observations in, (99) 406
  in posterior mediastinum in connection with Pott's disease, (15) 1631
  intra-peritoneal, of abdomen, (179) 863, (161) 1140
  of ethmoid and antrum of Highmore, (63) 62
  of kidney, case of, (89) 1062
  of larynx, (173) 1275
  of liver, (129) 1206
  of lung, pneumotomy for, (27) 345
  pelvic, (153) 63
  pulmonary, surgery of, (25) 1418, (6, 72) 1488, (26) 1558
  retro-peritoneal, operative management of, (98) 406
  subphrenic, (86) 599
  tubo-ovarian, (51) 468, (82) 717
Abscesses, pelvic, appendiceal, infrapubic opening of, (86) 1139
Abscesses, purulent and fecal, (37) 1205
  retropharyngeal, after otitis media purulenta, (66) 1345
Abstinence, total, medical profession and, (92) 862
Accidents, scientific study of, (52) 1699
A. C. E. mixture and ethyl bromid in operations for adenoid vegetations, (2) 1345
Acetanilid, considerations concerning toxicity of, (124) 142
Acetone, bearing of alimentation on excretion of, ([illegible]) 346
Acid, carbolic, (59) 1727
  carbolic, poisoning, (117) 1062
  intoxication, (66) 1559
  intoxication of diabetes, (99) 1274
Acne vulgaris, (153) 346
Acromegalia, (32) 141, (156) 470, (142) 938
Acromegaly, unusual features in, *887
Actinomycosis in man, (137) 142, *(13) 658, (38) 1558*
Actinotherapy in cutaneous medicine, *21, (15) 217
Acute diseases, nervous complications in, (161) 938
Addison's disease, (92) 1001
  disease treated with suprarenal extract, (37) 141
  disease, tuberculosis and, (14) 1345
Address, Albany College of Pharmacy, (78) 1632
  Albany Hospital Training School for Nurses, (53) 1000
  Albany Medical College, (37) 1345
  American Dermatological Association, (122) 406
  American Medical Association, (135) 599, *1431
  American Medico-Psychological Association, (97) 718
  American Neurological Association, (62) 345
  Arkansas Medical Society, (74) 218
  Association of Medical Officers of Army and Navy of Confederacy, (137) 282
  Berks County Medical Society, (114) 599, (74) 862
  British Medical Association, (68) 1274
  Canadian Medical Association, (111) 1062, (82) 1139
  Eastern Ohio Medical Association, (88) 1632
  *Executive Health Officer's As*sociation of Ontario, (112) 1062, (126) 1346
  Illinois State Medical Society, (103) 141
  in medicine, (93) 1139
  John A. Creighton Medical College, (92) 406
  Kentucky School of Medicine, (39) 1000
  Kentucky State Medical Society, (52) 281, (50) 717
  Maritime Medical Association, (64) 717
  Medical Society of Virginia, (46) 1559
Address, Medico-Chirurgical College, (120) 1346
  Nashville Academy of Medicine, (102) 531
  National Fraternal Congress, (67) 1062
  Nebraska State Medical Society, (61) 141
  New Hampshire Medical Society, (69) 717
  North Missouri Medical Association, (73) 717
  Ohio Medical University, (87, 88) 281
  on Surgery, (152) 1206, (29) 1345
  Ontario Medical Association, (126) 406, (112) 531
  Pennsylvania State Medical Society, (24) 1138, (46) 1345
  Philadelphia County Medical Society, (47, 48) 1345
  San Joaquin Medical Association, (92) 1632
  Sioux Valley Medical Association, (38) 1061
  Southern Illinois Medical Association, *(142) 142*
  Southern Surgical and Gynecological Association, (44) 1699
  Texas State Medical Association, (9) 281
  Training school for Nurses of Speers *Memorial Hospital*, (24) 345
  Tri-State Medical Association *of Alabama, Georgia and Ten*nessee, (127) 1633
  Tri-State Medical Association *of Mississippi*, Arkansas and Tennessee, (80) 1727
Adeno-carcinoma of Fallopian tube, (89) 1700
Adenocystoma, papillary, of thyroid gland, (17) 1632
Adenoid growths in nasopharyngeal space, (123) 406
  operation on pendent head under anesthesia, (64) 469
Adenoids, (55) 1274
  changes in facial bones due to, *246
  in infancy, remarks on diagnosis of, (115) 1139
  pharyngeal, (132) 532
Adenoma of both adrenals in new born, (67) 1488
  sebaceum of non-symmetrical type, *176
Adenomata and adenocystomata of ovary, (45) 281
Adhesions, *multiple, (37) 1205*
  post-operative, of peritoneum, prevention of, (42) 217
*Adnexa, uterine, conservative op*erations upon, (32) 1061
  uterine, operations on, (46) 1418
Adolescent period, medical treatment during, (170) 63, (166) 142, (83) 1001
Adrenal solution, edema of uvula, palate, pharynx and epiglottis following excessive application of, (33) 1061
Adrenalin chlorid, (57) 1139
  chlorid in aborting tonsillitis, (73) 1001
  chlorid, therapeutic value of, (6) 217
Adrenalin, clinical notes on, (121) 469
  hypodermically to prevent hemorrhage, (55) 141
  in uterine hemorrhage, (12[illegible]) 1560
  solutions, use of, (59) 141
Adrenals, adenoma of, (67) 1488
Advancement, (89) 599
  operations, secure stitch for, (145) 1275
Advertising, medical, relative value of, (83) 281
  vs. ethics, (87) 531
Aeration, necessity of more perfect, *(171) 63*
After-treatment of child in normal cases, (115) 142
Agar-agar for artificial production of connective tissue, (44) 659
  in formation of stump after enucleation or evisceration, (146) 1206
Aged, care of, (52) 937
Agglutinations obtained by celloidin capsules, (100) 1274
Ailments, slight, and how to cure them, (112) 599
Air passages, removal of foreign bodies from, *1077
  passages, upper, diseases of, in relation to mental development, (64) 1000
Alaska, aspect of disease in, (100) 1700
Albany Hospital, development of medicine and surgery in, (55) 1139
Albumin and few tube casts, advantages of trace of, ([illegible]) 1558
Albuminuria, cyclical, (94) 938, (102) 1274
  in disease of kidney in infancy and childhood, *641
  persistent or cyclic, (115) 346
  remarks on treatment of, (1[illegible]) 282
  without manifest organic renal lesions, (142) 346
  without perceptible impairment *of health, (134) 1346*
Alcohol and imbecility, (93) 862
  as a medicine, (34) 1345
  hydriatic substitutes for, (89) 862
  in high altitudes, (90) 862
  in phthisis, (60) 1345
  is it a true food, (88) 862
  modern experience vs. ancient tradition concerning, (13) 861, (85) 862
  obscure injuries following use of, (45) 937, (79) 1274, (113) 1274, (150) 1701
  on effect of, (25) 658
  poisonous action of, in some nervous and mental diseases, (94) 862
  question, the, (83) 1274
  recent researches on, (87) 862
  therapeutic value of, (4) 937
  worship, recrudescence of, (86) 862
Alcoholic habits in relation to life assurance, (130) 1346
  stimulants, use of, (100) 406
  toxemia, delirium tremens and, treatment of, (5) 1726

Alcoholism, chronic, pathology of, (91) 862
in three acts, (81) 1274
treatment of, (127) 938
Alimentation, bearing of, on excretion of acetone, (148) 346
Alkaline wash, best, (109) 1700, (62) 1727
Alkaloidal medication, what is, (101) 938
Alloxuric excretion in case of leucopenia, (97) 1274
Alopecia, (2) 281, (113) 599
Alum enema after abdominal operations, (44) 217
Alumni to college clinic, relation of, (121) 1139
Amaurosis, uremic, (21) 281
Amblyopia, (154) 346
alcohol-tobacco, presenting retinal hemorrhages, (88) 938
Ambulance, improved, for heat prostrations, (23) 217
Amenorrhea and dysmenorrhea, (101) 282
American surgery, history of, (104) 282, (49) 531
Amnesia, case of, (80) 862, *1601
Amputation, hip-joint, by means of Wyeth pins, *113
of arm together with clavicle and scapula, (177) 142
of thigh for advanced tuberculosis of knee-joint, (51) 218
Amputations below knee, (155) 142
hip-joint, (42) 1138
intra-uterine, *547
major and minor, technique of, (2) 1000
Amygdalitis, acute, treated by tincture of iodin, (21) 1061
Anal pockets, (34) 217
Analgesia and anesthesia, (30) 1061
from spinal subarachnoid injection of cocain, (4) 1273
obtained by spinal cocainization and ether or chloroform narcosis, simultaneous employment of, (19) 1205
spinal, (120) 282, (142) 1140
Analogy between physiology of animals and plants, (169) 63
Anarchy, physiologic study of, (162) 1275
Anastomosis, uretero-ureteral, preferable method of, *254
Anatomical material, on preservation of, (119) 63
Anatomy, method of teaching relational, *731
of hanging, (53) 469
of nervous system, proper method of teaching, (7) 1061
study of, (113) 63
Anchyloses, hereditary, (122) 63
Anemia, (112) 141, (144) 1489
and chlorosis, new observations on, (66) 62
association of, with chronic enlargement of spleen, (3) 1061, (35) 1138, (36) 1205, (9) 1273, (8) 1345
blood in, (71) 598
pathology and treatment of, (151) 1140
pernicious, (23) 62, (95) 406, *483, *577, (124) 1139, (50) 1632
pernicious, in infants, (93) 938
pernicious, progressive, (68) 937
remarks on various types of, (53) 281
severe, with changes in spinal cord, (24) 62
secondary, in child, (70) 1488
secondary, with splenic tumor, (41) 1727
successful treatment of, (136) 1633
Von Jaksch, so-called, (71) 1488
Anemic conditions, (88) 62
Anemonin, (101) 531
Anesthesia, (60) 141, (52) 1727
and analgesia, (30) 1061
cocain spinal, by lumbar puncture, (140) 1700
ether, unusual case of death from, (4) 1418
first operation performed under, (113) 469
general, in nose and throat operations, (24) 862
general, surgical history of, (67) 1727
general, technique of, (58) 1062
local, (70) 862
local, in ear, production of, (120) 469
Anesthesia, local, in genito-urinary surgery, (62) 281
ship's surgeon's infiltration, (49) 1699
spinal, (11) 217, (136) 346
Anesthetic chart, an, (93) 718
for children, choice of, (77) 1139
Anesthetics in heart disease, (71, 74) 469
in labor, (86) 281, (60) 1205
in renal diseases, administration of, (116) 346, (121) (1700
notes on, *581
observations on administration of, (51) 717
use and abuse of, (162) 142
Anesthetization as a specialty, (29) 345
cardiac accidents after, (72) 469
Aneurysm, abdominal aortic, treatment of, (14) 62, (15) 140
abdominal, preliminary notes on case of, (73) 862
abdominal, treated by abdominal section, (151) 470
aortic, (124) 1346, (118) 1489
cases of, (115) 1346
cerebral, (43) 1345
of cervical portion of vertebral artery, (174) 863
of internal carotid artery, (50) 862
of recurrent type, (66) 937
of thoracic aorta, (60) 218, (65) 862
popliteal, cured by pressure, (38) 531
sacculated, of arch of aorta, (139) 1275
sacculated, of superior profunda humeri artery, (60) 862
Aneurysms, aortic, extension of, (90) 141
Angina epiglottidea anterior, case of, (66) 1001
ulceromembranous, associated with fusiform bacillus, (25) 1699
Angioneuroses, (58) 717, (133) 863
Angiosarcoma of brain, (45) 62
of nose, (16) 658
recurrent, removal of entire upper extremity for, (71) 218
Anilin oil, use of, in ear, (83) 1346
Animal cell and its therapeutic applications, (166) 1140
disease, relation of, to public health, (153) 1275
Anisometropia, (115) 1700
Ankylostomiasis, (3) 140, (129) 599, *1461, *1464
eye complications in, (16) 861
in United States, (26) 281
Ankylostomum duodenale in Texas, (18) 1273
duodenale in Virginia, (37) 1061
Ano, treatment of fistula in, (152) 863
Anodynes in children, (149) 1140
Anomalies of frontal sinus and their bearing on chronic suppurative sinusitis, *239
Anomaly, unusual, of faucial tonsil, *242
Anomia and paraphasia, case of, (9) 1345
Antepartum diagnosis, (118) 142
hygiene, points in, (149) 863
Anthrax, case of, (88) 599, (136) 1001
cutaneous, (70) 598, (30) 717
facial, treated by injections of carbolic acid, (135) 1206
of face, (2) 1138
Antropometric data, evaluation of, *1645
Antidiphtheric serum as remedial agent, positive value of, (39) 862
Antiperistalsis, experimental study of, (93) 469
Antipneumococcus serum, pneumonia treated by, (10) 1726
Antipyretics, contribution to knowledge of, (135) 1346
Antisepsis in throat and nose surgery, (5) 598
Antistreptococcus serum, cases treated with, (63) 862
serum in septicemia, (11) 1726
Antitoxin, action of, (138) 469
animal extracts and serums, 172) 142
treatment of diphtheria, (140) 469, (10) 717
Antivenene, some investigations upon, *1597
Antrum, maxillary, serous diseases of, (115) 469
of Highmore, empyema of, (8) 530, (114) 1139
of Highmore, treatment of purulent conditions of, (114) 1139
Anus and rectum, prolapsus of, (86) 531
narrowing of, (125) 599
Aorta, thoracic, aneurysm of, (60) 218, (65) 862
Aortic insufficiency, Flint murmur in, (73) 1118
Aphonia, complete, recurrent paralysis with, (82) 1346
Apomorphia, (122) 1001
Apoplexies, etiology of, (2) 1418
Apoplexy, cerebral, (37) 345
observations on, (1) 1418
prognosis of, (35) 658
Apothecaries' weights and measures, adaptation of, to metric system, (93) 62
Apparatus used in instruction in psychology, (70) 141
Appendages, uterine, disease involving, (108) 1559
uterine, value of conservative treatment of, *489
Appendicectomy, *1533
Appendicitis, *80, (160) 63, (51) 468, (113) 1001, (91) 1346, (85) 1559, (62) 1632, (26) 1699
acute intestinal obstruction following, (54) 1488
and infectious diseases, (25) 1727
and its *treatment*, (89) 62
and life insurance, (132) 1346
atypical and unusual varieties of, (28) 405
blood examination in, (74) 937, (85) 1419
complicating ovarian degeneration, (81) 141
conservative surgical treatment of, (49) 1274, (138) 1419
conservative treatment of, (87) 1632
diagnosis and treatment of, (106) 1632
diagnosis of, (65, 67) 1632
early *operation for*, (40) 141, (34) 531, (102) 1062, (139) 1419, (116) 1559
four cases, representing four types of, (123) 1001
gangrenous, (37) 1205
heredity of, (24) 1061
importance of early definite diagnosis of, (191) 142, (162) 346
important sequels resulting from delayed operation in, (17) 468
in children, (51) 598, (82) 1205, (117) 1274
in female, (106) 1700, (29) 1727
medical aspects of, (66) 1632
medical vs. surgical treatment of, (129) 1700
mortality of, *898
our ideals in, (51) 62
practical points in treatment of, (64) 1632
questions on treatment of, (53) 1632
recent conclusions in regard to, (87) 1062
report of cases of, (16) 1273
symposium on treatment of, (53-63) 1632
treatment of, (124) 282, (126) 599, (115) 1001, (147) 1419
two cases of pin, (52) 1139
unusual features of, *949, (142) 1700
what is true conservatism in treatment of, (4) 795
when and where to operate for, (130) 282
with reference to technique of operation, (109) 469
with *thrombosis*, (29) 405
Appendix vermiformis, cyst of, (6) 1558
vermiformis, historic sketch of, (82) 1489
vermiformis passed in stool, (22) 1418
Army of U. S., preventable disease in, *1110
rations in China and tropics, (78) 346, (88) 1274
Arsenauro in treatment of some nerve diseases, (34) 62
Arsenic and its compounds, (15) 598
in malarial remittent fever, (119) 599
uses and abuses of, (40) 1632
Arsenical poisoning from beer [illegible] 1274
[illegible] early rec[illegible]agement of, (11) 1631
disease, case of, (52) 406
Arteriosclerosis, (94) 218, (28) 1273, (44) 1345
advanced, in child, (92) 718
and arterial hypertonus, (81) 659
case of, (49) 598
Artery, lenticulo-optic, embolism of right, complicating pneumonia, (14) 405
utero-ovarian, pelvic floor segment of, (32) 1727
vertebral, aneurysm of cervical portion of, (174) 863
Arthritis, (43) 1062
deformans and diseases due to perverted metabolism, (32) 62
gonorrheal, treatment of, (88) 1489
pneumococcus, (132) 1206
purpura, (47) 1000
rheumatoid, (39) 281, (96) 282
Arthropathy, tabetic, (51) 406
Artificial noses and ears, (16) 1418
Arycartilage, traumatic dislocation of, (139) 938
Ascaris lumbricoides and oxyuris [illegible] 46) 142
[illegible] note on, (5) [illegible]
Asphyxia neonatorum, (79) 346
Assassinations, political, (30) 1273
Assurance, causes of deaths in early years of, (129) 1346
Astereognosis from brain injury, (57) 659
Asthenopia (78) 938, (86) 1489
on frequency of, (72) 862
in convalescence, (147) 1701
Asthma, (60) 659
as result of nasal conditions, *241
neurasthenic, (52) 659
pathology of, (141) 63
Astigmatism, clock dial chart in refraction of, (148) 1275
Atony, muscular, in uterine displacements, (9) 1418
Atresia hymenalis, etiology and treatment of, *194
Atrophies, progressive muscular, (25) 1138
Atrophy, acute yellow, of liver, (123) 218
and tabes, progressive muscular, (93) 1205
infantile, (28) 862
optic, following hematemesis, (96) 1700
optic nerve, associated with cranial deformity, (89) 469
perineal muscular atrophy, (66) 345
Atropia in relieving acute pulmonary edema, (14) 861
Auditory canal, external, foreign bodies in, (133) 407
canal, external, suppuration of parotid gland with pus in, *450
canal, hystero-epilepsy with discharge of blood through, (21) 468
Aural pain, successful treatment of, (105) 282
Auricle, *operation* for prominence of, (12) 281
Auscultation of mastoid, (128) 218
Autoinfection, acute intestinal, (108) 1489
Autointoxication, gastrointestinal, (46) 406
gastrointesti[illegible]h mucous [illegible] (30) 405
Autopsies, how made, (85) 531
Autotoxemia, (25) 795
Axillary artery in man, study of, (124) 63

Babe with one lung, *701
Baby feeding, (46) 1062
incubator, feeding of, (80) 1205
Bacillus aerogenes capsulatus, infection from, (118) 1139
coli communis as inhibitor [illegible] HCl in stomach, (15)

- Bacillus diphtheriæ, double stain for, (69) 862
  - diphtheriæ, morphologic varieties of, (111) 863
  - influence, in tuberculosis, (92) 469
  - pestis and bubonic plague, (82) 281
  - pyocyaneus, infection with, (118) 863
  - tuberculosis, bio-chemical studies on, (106) 863
  - typhosus, cystitis due to (63) 1345
- Backward child, diagnosis of, *973
  - child, plea for, *976
  - children, physiologic study of, (3) 61
- Backwardness in children, *975
- Bacteria, certain features of growth of, (102) 862
  - in disease, (99) 938
  - intestinal, classification of, (112) 863
- Bacteriology, *clinical*, (55) 1559
  - public health, problems of, (25) 530
  - recent progress in, (55) 531
  - relation of, to medicine, (58) 1139
- Bacteriolysis and typhoid immunity, studies on, (110) 863
- Basal ganglia, gross lesions of, (5) 1345
- Bay rum, blindness from, *1447
- Beard and hair, unique case of loss of (48) 937
- Beatson's method for inoperable recurrent cancer of breast, (24) 468
- Bedspring, new, especially adapted to hospital and sickroom purposes, (59) 659
- Bedstead, medico-surgical, (29) 281
- Beer in acute vomiting, (31) 1061
- Belladonna vs. scopolia, (36) 468
- Bellevue *Hospital* homicide, expert evidence in, (6) 61
- Bell's phenomenon, on, (52) 1062
- Beri-beri, (132) 1139
  - in Japanese army, (37) 937
- Berlin and Hamburg, hospitals of, (36) 862
  - Germany, (103) 1346
  - surgery in, (130) 1139
- Beta-eucain as anesthetic, (94) 1559
- Bile in abdominal cavity, (9) 598
  - retrojection of, into pancreas, as cause of hemorrhagic pancreatitis, (133) 63
- Biliary passages, surgery of, (87) 1346
  - tract, anatomy and morphology of, (92) 1419
- Bilocular stomach, pathology and treatment of, (22) 1699
- Biopsy, (15) 1273
- Bipolar version, relative merits of, (63) 406
- Bisol, merits of, (193) 142
  - thiocol and, (139) 282
- Bladder and rectum, paralysis of, from injury, (128) 863
  - lesions of, during hysterectomy, (8) 1558
  - male, device for irrigating, (27) 1632
  - new and better method of draining, in women, (68) 345
  - operations on, (161) 1701
  - operative *preperitoneal* rupture of, (1) 1205
  - temporary suspension of, operation for cystocele by, (78) 1062
  - tuberculosis of, (65) 531
  - urinary, removal of, (24, 25) 281
- Blindness and deafness, verbal, (110) 218
  - from drinking bay rum, *1447
  - from habit, (154) 346
  - hysteria, *and deafness, (142)* 1275
- Blood, alkalescence of, relation of, to urinary reaction, (6) 598
  - antisepsis, method of, (114) 1206
  - changes induced by administration of ether, (56) 862
  - chemical and microscopical examinations of, *500
  - clinical examination of, (47) 1274, (134) 1633
  - count at high altitudes, (86) 1419
  - examination in appendicitis, (74) 937, (85) 1419
- Blood examination, practical, (3) 468, (3) 937, (87) 1001, (20, 69) 1205
  - examinations as aid to surgical diagnosis, (34) 717, (124) 938
  - examinations, experiences with, (23) 1558
  - examinations, practical and scientific method of, (11) 861
  - examinations, study of, for Widal reaction, (33) 345
  - fibrin in, (4) 1138
  - impoverished, and insanity, (123) 1559
  - in anemia, (71) 598
  - in diagnosis, (114) 1346
  - in infancy and childhood, (29) 1632
  - in syphilis, (131) 346
  - metabolism, (186) 142
  - pressure, clinical methods of measuring, (23) 530
  - stains, medicolegal examination of, (18) 1488
  - structure study, matter of interest in, (28) 1000
  - studies of, (57) 862
  - therapeutic conditions suggested from condition of, *1652
  - things learned from examination of, (51) 1632
  - vessels, large, suture of wounds of, (12) 345
  - washing in septicemia, (156) *142*
- Bloodless work, technique of, (103) 469
- Boards of lunacy with reference to examinations for commitment in insane asylums, (144) 1140
- Bodily mutilations to longevity, relations of, (80) 659
  - new constituent of, (13) 1558
  - tuberculosis of, (84) 1062
- Bone disease, unusual features of, *(107) 1633*
  - lesions of nurslings, difficulties in making diagnosis of, (79) 1418
- Bones and joints, tuberculosis of, (62) 598, (70) 937
- Boric acid poisoning, (158) 1275
- Born's method of reconstruction by wax plates, (126) 63
- Boston ice supply (7) 1558
- Botanical nomenclature, (92) 938
- Bottini operation in obstructive hypertrophy, (2) 1488
  - operation in prostatic hypertrophy, (19) 405, (145) 470
  - operation, present status of, (25) 1558, (10) 1631
- Bovinine, what is, (121) 346
- Bowel, lower, obstructive diseases of, (9) 795, (74) 1062
  - perforation of, (37) 1205
- Bowels, obstruction of, (32) 531
- Brain abscess and thrombosis of cavernous sinus, (58) 1700
  - cholesteatomata of, (113) 863
  - concussion of, following compression, (83) 862
  - diseases, study of, (28) 795, (18) 1000
  - glioma of, (61) 1139
  - injury, cases of, (89) 1274, (80) 1418
  - injury, immediate and remote effects of, *629
  - small, of civilized men, anthropological study of, (96) 718
  - softening, *(43) 1699*
  - study of temperature, pulse and respiration in diseases of, (7) 937
  - syphilis, somatic signs of, *1100
  - temperature, pulse and respiration in diseases of, (25) 717
  - tumor, (98) 531, (76) 1488
  - tumor in gynecologic practice, (73) 1274
- Breast, cancer of, *(6) 658, (39)* 1061
  - carcinomatous, removal of, (87) 62
  - hydatid disease of, (51) 862
  - male, carcinoma of, (87) 1700
  - milignant disease of, (94) 62
  - tumors of, (13) 1726
- Breasts in nursing mothers, care of, (150) 1063
- Breech presentation, tracheotomy in, *1036
- Bright's disease, *(106) 63*
  - disease, clinical points in, (19) 1345
- Bright's disease, chronic, opposing routine regime in management of, (49) 1488
  - disease, diagnosis of, (61) 1274
  - disease, ophthalmoscopic diagnosis of, (97) 1062
  - disease, pathology of, (4) 1345
  - disease, treatment of, (62) 1274, (138) 1489
- British Congress of Tuberculosis, *381, (42) 1632
- Bromid *sleep, the, (94) 718*
- Bronchi, lungs and pleura, syphilitic affections of, (52) 1205
- Bronchial and pulmonary affections, intratracheal injections in, (9) 1000
  - concretions, (94) 141
- Bronchitis, acute, clinical features and treatment of, (34) 281
  - fibrinous or plastic, (89) 282, (39) 1138
- Bronchostenosis, *spasmodic, (17)* 1699
- Brooklyn water supply, (64) 531
- Bubo, inguinal, as complication of malarial fever, (4) 61
- Bubonic plague, bacillus pestis and, (82) 281
- Bucco-antral route in neurectomy for relief of tic douloureux, (13) 530
- Bullet wound in spinal cord, (74) 62
  - wound of hand, (145) 1700
- Burns and their treatment, (107) 63, (103) 282
  - legal responsibility for, (53) 659
  - study of, (20) 658
- Bursitis, chronic nasopharyngeal, (57) 1000
- Button anastomosis, (33) 1345
- Butyric and acetic acids in stomach, (32) 1488

- Caffein, (107) 599
- Calcium salts, abstraction of, as cause of osteomalacia, (20) 1000
- Calculi, biliary and urinary, Roentgen rays in, (70) 406
  - biliary, surgical treatment of, *1573
  - renal, (102) 1559
  - vesical, unique specimen of, (9) 861
- Calculus, nephrectomy for removal of, (106) 1139
  - prostatic, removed through perineal section, (35) 1699
  - renal, diagnosis of, (144) 1001
  - scratch-marks as determining, (69) 1274
  - ureteral, located by *x*-rays, *567
- Calomel and sodium sulphate in constipation, (25) 1273
  - as purgative, best way of prescribing, (22) 405
- *Cambria Iron Company, experi*ence as surgeon for, (20) 468
- Canadian surgery, observations *on*, (44) 1632
- Cancer, (25) 468
  - and consumption, how may we reduce death rate from, (70) 1062
  - and its cure (112) 938
  - cutaneous, treatment of, *99
  - failure of knife in the treatment of, (28) 1205
  - gastric, medical aspects of, (57) 1274
  - in Massachusetts, alleged increase of, (1) 345
  - inoperable recurrent, of breast, relieved by Beatson's method, (24) 468
  - notes on medical treatment of, (153) 1063
  - of breast, (65) 62, (39) 1061
  - of intestine, (16) 717
  - of peritoneum, (49) 345
  - of rectum, contribution to sur*gical relief of, (7) 1000*
  - of rectum, new operation for removal of, *23
  - *of stomach, present position in* diagnosis of, (63) 281, (87) 599
  - of uterine fundus, (72) 141
  - of uterine neck, *314
  - of uterus, (90) 718
  - of uterus and breast, (97) 141
  - of uterus, operation for, (23) 1418
  - of uterus, recent developments in our knowledge of, (70) 345, (48) 1418
- Cancer, past, present and future of, (48) 1559, (160) 1701
  - pessimism in, (36) 405
  - primary, of gall-bladder and bile-ducts, (23) 1061
  - surgical treatment of, (1) 1726
  - treatment of certain forms of, by *x*-rays, *688, (23) 862
  - uterine, status of hysterectomy for, (64) 406
  - *vaginal, (24) 1632*
- Cancerous process, nature of, *671
- Cancers, high-seated, of rectum, method of treating, (13) 405, *801
- Cancrum oris, cases of, (61) 62
  - oris treated by excision and cautery, (48) 659
- Carbolic acid, gangrene following use *of, (33) 1488*
  - acid in surgical cases, (112) 1489
  - *acid in burns, (21) 658*
  - acid in treatment of piles, (36) 1699
- Carbonate *of creosote in pneu*monia, (1) 1345
- Carbonic acid douches, contrivances for applying, (12) 530
- Carcinoma, early diagnosis in, *674
  - diagnosed by means of paracentesis abdominis, (88) 1700
  - etiology of, review of literature on, (116) 1274
  - mammary, incisions for, (59) 218
  - of breast, (6) 658, (151) 938
  - of cardiac end of esophagus, (28) 281
  - of cecum, *1019
  - of ear, (63) 469
  - of esophagus, clinical diagnosis of, (21) 862, (6) 937
  - of female urethra, (86) 1700
  - of kidney, (136) 1700
  - of male breast, *(87) 1700*
  - of pyloric end of stomach, (43) 862
  - of skin of slow growth, peculiar form of, *1590
  - of tip of appendix, (29) 217
  - of tongue, *(150) 1140*
  - of tonsils, (156) 346
  - primary, of nasopharynx, *371
  - question, *present status of*, (4) 281, *804
  - removal of cecum for, (76) *1139*
  - surgery of gastric ulcer and, (50) 1274
- Carcinosis of internal genital organs, (56) 1699
- Cardia duplex in a turkey, (55) 862
- Cardiac accidents after anesthetization, (72) 469
  - disease, mental disturbances in, (20) 405
  - lesions as observed in the negro, *1581
  - murmurs, valvular, *differentia*tion of, (50) 937
  - therapeutics, (136) 1139
- Cardiopulmonary murmur illustrating importance of differentiation, (101) 406
- Cardio-therapy, *observations* on modern, (7) 861
- Caries of mastoid, operation for, (36) 1558
  - of spine, (11) 1418
- Case method of teaching, (67) 862
- Cases from practice, (138) 142
- Cast, tracheo-bronchial fibrinous, (97) 1346
- Castration by gangrenous process following injury, (53) 345
- Casuistische Faelle, 68
- Cataract, (163) 1140
  - cases, what can we do for our, (112) 1139
  - extraction of, without iridectomy, *1513
  - extraction where glaucoma existed in opposite eye, (41) 1488
  - treatment of immature, (110) 406
- Catarrh, anatomy of, (8) 281
  - chronic intestinal, prognosis and treatment of, (151) 863
  - nasal, and catarrhal deafness, can it be cured, (15) 795
  - nasal, home treatment of, (73) 1205
  - nasal, treatment of, (119) 346
- Catarrhal diseases in upper air-tract of children, (52) 1559

Catarrhal diseases of nose and throat, *243
Catching cold, (35) 1632
Catharsis in abdominal surgery, (27) 141
Catheterization, difficult case of, (138) 346
  permanent, further report on, *1221
  [illegible] (60) 1346
  [illegible] of, (29) 1558
Cecum, carcinoma of, *1019
  resection of, *265
  removal of, for carcinoma, (76) 1139
Celiotomy, immediate, plea for, in penetrating gunshot wounds of abdomen, (86) 1274
  transversal incisions in, (117) 1206
  vaginal, notes on, (148) 1001
Cell life and germ considered from standpoint of natural phenomena, (43) 1138
  proliferation under pathological conditions, (107) 863
Celloidin capsules, agglutinations obtained by, (100) 1274
Cellulitis, pelvic, (115) 938
Central fissure, is it duplicated in brain of Carlo Giacomini, (31) 658
Cereals in infant feeding, (26) 217
Cerebellar lesions without cerebellar symptoms, (68) 141
Cerebral cortex, bilateral relations of, (116) 63
  function, study of, (93) 1001
Cerumen, impacted, (71) 281
Cervical glands, tuberculosis of, (165) 1206
Cervix, *labor following amputation of*, (70) 1632
  uteri, *dilatation of*, in obstetrical practice, (26) 937
  uteri, diseases and injuries of, (113) 1559
  uteri, laceration of, (3) 1000
  uteri, *tuberculosis* of, (81) 1418
Cesarean section, case of, (73) 141, (108) 406, (70) 1274
  section, cases of, (112) 1559
  section in contracted pelvis, (45) 217, (42) 598
  section in *placenta previa*, *495, (52) 1000, (15) 1138, (54) 1345
  section, *pelvic indications for*, (12) 1000
  section, technic of, (11) 1000
  section vs. craniotomy, (44) 598, (123) 1206
Chalazion, (90) 599
Chancre of tonsil, (26) 1727
  unrecognized, (48) 1205
Charity by proxy, (53) 531
Chart of work done by lying-in *department* of N. Y. Post-Graduate Hospital, (87) 659
Chemical pathology, teaching of, (25) 62
Chest, diseases of, oxygen gas in, (55) 1345
  nose and throat in their relation to diseases of, (116) 599
  pantagraph and manometer, (9) 1061
Chicago clinics, summer touring among, (151) 1206
  Medical Society, brief history of, (112) 1206
  school medical inspection in, *1385
Childhood, some ocular affections of, (16) 1205, (72) 1700
  tuberculous peritonitis in, (59) 1700
Children, crippled and *deformed*, state care, (140) 1206
  feeding of, after first year, (47) 531
  hysteria in, (119) 1489
Children's sanatoria, need of, (28) 1632
  ward, notes from, (56) 531
China, Army ration and canteen in, (25) 217
Chloretone, (83) 531, (104) 1062
  as hypnotic and local anesthetic, (58) 469
  experience with, (101) 718
  in epilepsy, (148) 863
Chlorid, combined, in chyme, sodium tungstate test for, (25) 598
Chloroform and nitrite of amyl combined, (118) 599
  in labor, (37) 1699
  oxygen anesthesia, (111) 1274
Chloroform, points in administration of, (124) 218
Chlorosis and metabolism, (58) 345
  anemia and, new observations on, (66) 62
  diagnosis and treatment of, (56) 345
  hydriatics in, (57) 345, (12) 1273
  unique case of, (12) 1273
Choked disc, pathogenesis of, (85) 469
Cholangitis as complication of gallstones, *1453
Cholecystectomy for gallstones, (32) 1632
Cholecystitis as complication of gallstones, *1453
  associated with gallstone, (47) 281
Cholecysto-colostomy, is it a feasible and rational operation, (126) 863
Cholecystotomy, (35) 598
  first, and first nephrectomy, (160) 863
Choledochus stone, operation for, (88) 1346
Cholelithiasis, study of cases of, (120) 1419
Cholera infantum, (130) 599, (71) 659, (102) 1419
Cholesteatoma in posterior cranial fossa, (68) 1345
  varieties of, (131) 469, (61) 1000
Cholesteatomata of brain, (113) 863
Chorea, (121) 142, (139) 1206
  hereditary, three cases of, (106) 938
  hydrobromate of hyoscin in, (69) 1700
  in rheumatism and endocarditis, (63) 937
  monobrachial, and writer's cramp from occupation strain, (114) 282
  psychoses of, *1378
  with embolism of central artery of retina, (91) 1700
  with partial paralysis secondary to rhinitis, (6) 1273
Chorioretinitis striata, (147) 1275
Choroid and paretic mydriasis, spontaneous rupture of, (95) 599
  multiple rupture of, *1535
  rupture of, (146) 1489
Choroiditis, metastatic, occurring in pneumonia, (1) 717
Christian science, (23) 345, (138) 1560
  science "cures," attempted investigation of some, (15) 405
Chromic acid *in epithelioma*, (107) 406
Chronic and nervous diseases, (95) 1206
Church *hospitals*, (77) 938
Chylous urine, nature of fats and allied *bodies* in, (72) 1559
Cigarette smoking, (82) 1274
Ciliary body, gumma of, (66) 1700
  spasm, shadow test for, measuring amount of, (150) 1275
Cinchonism, effect of, upon articulation and vocalization, (29) 1273
Circumcision, (130) 469
  preputial divulsion vs., (47) 1488
Cirrhosis, hepatic, circulatory disturbances accompanying, *817
  of liver, *29, (105) 1632
  of liver, etiology and classification of, *877
  of liver, treatment of, (86) 406, *883
  with *pigmentation*, *815
Civil service principles, advantages of, (98) 1206
Clavicle, fractures of, (57) 531
Cleft palate, (20) 1488
  palate and its association with harelip, (27) 530
  palate and its relation to speech, (25) 1061
Climate, influence of, on nervous diseases, (19) 1061
Clinic Medico-chirurgical Hospital, (119) 1346
Clinics, notes from, (57) 1559
Clinical and pathological notes, (59) 1139, (80) 1632
  cases, report of, (46) 468
  demonstration at Post-graduate Medical School and Hospital, (64) 598
Clinical facts and their meaning, (7) 1726
Clinics, notes from, (89) 659, (91) 1001, (72) 1205
  report of, (56) 62, (112, 113) 346, (89, 90) 1001, (71) 1205, (56) 1559
Clock dial chart in refraction of astigmatism, (148) 1275
Club-foot, congenital, treatment of, (107) 1139
  paralytic, (62) 937
Coal-tar antipyretics in children, (86) 1632
Cocain, analgesia from spinal subarachnoid injection of, (4) 1273
  muriate of, for spinal anesthesia, (9) 530
  subarachnoid injection of, for operations on all parts of body, (19) 468, (136) 938
Cocainism, (99) 469
Cocainization, spinal, (135) 346, (18) 862, (72) 937, (136, 144) 938, (127) 1274
Coccygodynia, (44) 345
Cold as cure for tetanus, (128) 1139
Colds, feather-beds and, (80) 599
Coley's mixture for treatment of multiple primary neoplasms, (34) 1273
Colic, intestinal, (152) 63
Colitis, fatal polypoid, from mercurial inunctions, (105) 1139
  membranous, *566
Collargolum and unguentum Crede, (104) 406, (141) 1489
C[illegible] des oberen [illegible] 281
  [illegible]ndness from drinking, (115) 406
Colopexy, abdominal, for prolapse of rectum, (69) 62
Color-blindness, improved lantern for detecting, (16) 937
Colorado, early surgeons of, (92) 1489
  Fuel and Iron Company's Hospital, history of, (107) 1489
  influence of climate of, on nervous system, (77) 218
Colpeurynter in obstetric practice, (77) 1488
Coma, diabetic, metabolism in, (66) 1559
Commotio retinae caused by contrecoup, (143) 1206
Compensation and failure of compensation in heart disease, (147) 346
Compressed air, apparatus for heating and sterilizing, (140) 938
Conception, twin, (42) 937
Conceptions, imperative, (27) 795, (45) 1418
Concussion, cerebral, with retinal changes, (2) 658
  of brain and hystero-epilepsy, (13) 1345
Condensed light upon skin, action of, (34) 1418, (47) 1727
Congestion, chronic passive, increase of elastic tissue in lung in, (116) 863
Conjunctiva and cornea, disadvantages of copper sulphate in diseases of, (13) 937
  tuberculosis of, (85) 938
Conjunctivitis, follicular, (105) 1274
  from x-rays, (8) 937
Connective tissue, agar-agar for artificial production of, (44) 658
Connell's operation of end-to-end anastomosis of small intestine, (75) 1001
Conservation of ovaries, (62) 1062
Constipation, atonic and spastic, (109) 1139
  habitual, causes and treatment of, (36) 717, (22) 1273, (32) 1345
  in children and adults, (24) 1273
  in infants, (82) 862, (131) 938
  rational treatment of, (96) 1419
Consumption, cancer and, how may we reduce death-rate from, (70) 1062
  cure for, by inhalation of medicine through medium of hot air, (111) 1206
  home vs. climatic treatment of, (22) 937
  open-air treatment of, (74) 1488
Consumption, practical features in treatment of, (86) 218
  prevention and cure of, (127) 469
  treatment of, at home, (103) 1001
Consumptive, management of the, (102) 599, (44) 1062, (94) 1346
  poor, practical solution of question of dealing with, (113) 1062
Consumptives, camp life for, (134) 1489
  crowding of, into municipal general hospitals, (12) 1138
Contagious diseases, first help in cases of, (145) 1140
  diseases, how to prevent spread of, (74) 1559
  diseases, medical inspection of schools and prevention of spread of, (118) 938
Continued fever, have we a, (104) 63
  fever in South Carolina, (168) 1206
  fever, new, (17) 795
Contract doctor, in what does he differ from veterinarian, (71) 1001
Contusions, abdominal, early symptoms of, (33) 1699
  of abdomen, surgical progress in treatment of, (87) 1419
Convulsions, epileptiform, caused by *shoe-button in nose*, (81) 1345
  infantile, (132) 142, *(122)* 938
Copper sulphate, disadvantages of, in diseases of conjunctiva and *cornea*, (13) 937
Cornea, central fistula of, (82) 1632
  conical, high degree of, (147) 1206
  controversy about dioptric value of, (119) 406
  frost-bite *of*, *(31) 1632*
  sulphate of copper in affections of, (3) 405
Corneal lesions in acquired syphilis, *1669
Corning's anesthesia among insane, (176) 863
Corset for movable kidney, (67) 345
Coryza, lithemic or recurrent, (9) 405
Costume *deformities*, (19) *1273*
Couching by a mule, (117) 406
  spontaneous, of congenitally dislocated lens, (93) 599
Cough and its treatment in tuberculosis, (71) 862
  treatment of, (72) 531
Counter prescribing, modern, (89) 1139
Country doctor and his equipment *for bacteriologic* work, (100) 218
  practice, modern methods in, (84) 1489
County societies, duties of members to, (46) 345
Court-plaster, gold-beater's skin, for operative surgery, (88) 718
Courvoisier's law, (18) 1632, (64) 1727
Coxalgia, (14) 281
Craig colony, observations at, (20) 1632
Cranial nerves, affections of, following influenza, (91) 346
Craniotomy, Cesarean section vs., (44) 598, (123) 1206
  consideration of conditions for, (70) 1274
Creosote in pneumonia, (71, 77) 1727
Criticism, (59, 70) 469, (34) 1138, (134) 1275
Crime, duty of state in prevention of birth of, (61) 1559
  legislation and, (128) 1633
  treatment of, (138) 1275
Criminals and defectives, how to reduce number of, (17) 405
  youthful and insane, needed reforms in management of, (4) 405
Crippled and deformed children, state care of, (140) 1206
Croup, pilocarpin *hydrochlorate* in, (7) 217
Cuba, *sanitation of*, (55) 937
Curette in obstetric practice, *617
Curetment of uterus from standpoint of general practitioner, (110) 469

Curvature, lateral, mechanics of, (6) 1345
  rotary lateral, and Pott's disease of spine, (98) 1632
Cutaneous manifestations in diabetes, (8) 140
  medicine, actinotherapy in, *21
Cyanosis, marked, (31) 62
Cyst, cerebral, (94) 406
  dermoid, (51) 1139
  dermoid, of testicle, (35) 1418
  dermoid unusually large, (134) 532
  multilocular, of inferior maxilla, (11) 530
  of appendix vermiformis, (6) 1558
  of omentum, (6) 345
  of spleen, (145) 1001
  ovarian, removal of, (32) 345
  ovarian, with twisted pedicle, (5) 345
  serous extravasation, of both sides of nasal septum, (120) 1062
  simple serous, of cerebellum, (63) 345
  small ovarian, (32) 862
Cystadenoma of pancreas, (8) 405
Cystic kidney, congenital, *925
Cystitis, (141) 1001, (162) 1489
  and urethritis, europhen in, (45) 345
  bacteriologic findings in, (168) 863
  chronic, due to bacillus typhosus, (63) 1345
  etiology of, (155) 938
  study of, in women, (24, 53) 717
  thoughts on, (43) 141
  treatment of, (29) 862
Cystocele, operation for, (86) 718, (78) 1062
Cystotomy, perineal, (75) 598
  suprapubic, (89) 1346
  suprapubic, under local anesthesia, (40) 937
Cysts and cystic degeneration of kidney, (45) 281
  dermoid and other, of ovary, (49) 218, (34) 937
  intraligamentous ovarian, (12) 62
  ovarian, (40) 598
Czolgosz case, symposium on, (8) 1205
  case, the, (31) 1273
  crime of, (10) 1205
  expert opinion on, (11) 1205
  passing of, (114) 1633
  trial, the, (9, 12) 1205

Dairy, the, what protection have the people against, (31) 1727
Dangers to public health and morals from quackery, (23) 1632
Darwinism and the doctor, (139) 1063
Dead, should we burn our, (22) 1345
Deafness, (109) 938
  catarrhal, and nasal catarrh, can it be cured, (15) 795
  crusade against, (133) 1633
  from scarlet fever, (107) 1419
  non-surgical treatment of, (61) 1727
  progressive arrest of, (41) 141, (27) 598
  verbal blindness and, (110) 218
Death, fear of, (73) 1632
  sudden rare case of, (98) 346
Deciduoma malignum, case of, (76) 1062
Deformed legs, case of, (135) 218
Deformities and disabilities, orthopedic treatment of, (13) 1061, (94) 1139
  rachitic, of spine, (4) 468
Deformity, congenital, of both auricles, (127) 218
  cranial, optic nerve atrophy associated with, (89) 469
Degeneracy, poverty and, (84) 862
  stigmata as basis of morbid suspicion, (115) 282, (114) 1419
Degenerate, education of, *1648
Degeneration, carcinomatous, of a papilloma, (83) 938
  myocardian, following coronary arteriosclerosis, three distinct consequences of, (3) 217
  traumatic, of retina, (118) 1700
Deglutition, physiology of, (32) 598
Delinquents, juvenile female, (115) 1419
Delirium, acute, (60) 1559
  tremens and alcoholic toxemia, treatment of, (5) 1726
  tremens, management of, (26) 658
  tremens, need of better provision for care of cases of, (16) 795
  tremens, treatment of, (24) 658
Delivery, position of the woman during, *615, (33) 937
Delusions in medicine, (47) 1550
Dementia paretic, *832, (140) 1560
  praecox, (50) 468, (100) 718
Dental arch, influence of mouth-breathing on, (7) 281
  college standard, *9
  practice, military, modifications and limitations of, *164, *165
Dermatitis, blastomycetic, relation of syphilis to, *104
  bullous, following vaccination, (62) 717
  exfoliativa neonatorum, (44) 531
  herpetiformis pustulosa, case of, (121) 406
  universalis, (125) 1139
  vegetans, case of, (99) 1139
Dermatological clinic, (90) 62
Dermatology, social aspects of, (17) 861, (19) 862, (5) 937, (16) 1000, (17) 1061, (7, 27) 1138, (2, 24) 1205, (7, 21) 1273, (23, 30) 1345, (8) 1418, (27) 1488
Dermatoneuroses, cause of, (143) 1419
Dermatoses, histological diagnosis of, and tumors of skin of doubtful character, (15) 1273
Descemetitis, a symptom of *inflammation* of uvea, (113) 1700
Desert climate for consumptives, (43) 1418
Development of limbs, body-wall and back in man, (131) 1700
Devitalized-air toxemia and tuberculosis, (10) 1418, (14) 1488
Diabetes, acid intoxication of, (99) 1274
  and Bright's disease, clinical points in, (19) 1345
  cardiovascular system in, (96) 1632
  cutaneous manifestations in, (8) 140
  degeneration of Islands of Langerhans in, (71) 1559
  in surgery, (9) 140
  mellitus, (7) 140, (83) 141, (95) 218, (71) 406, (30) 862, (125) 1633
  mellitus, etiology and pathology of, (82) 141
  mellitus, histo-pathology of *pancreas* in, (73) 1700
  mellitus in childhood, *638
  pancreatic, notes on, (55) 1000
Diagnosis in diseases of infancy and childhood, (46) 1488
  in nervous diseases, (28) 1558
  scientific aids to, (31) 1345
Diaphragm, human, development of, (129) 63
  injury to, by *puncture* successfully treated by suturing, (6) 717
Diarrhea, chronic, *due to* rectal disease, (150) 863, (108) 1139
  dysenteric, remarks on treatment of, (141) 346
  infantile, (135) 142, (31) 405, (103) 1062
  inflammatory, with local inflammation, (125) 218
  summer, after-treatment of, (33) 281
  summer, hygienic treatment of, (32) 281
  summer, in children, (119, 140) 282
  summer, medicinal treatment of, (31) 281
Diathesis, hemorrhagic, in relation to operations on nose and throat, (18) 1699
Diet, desire first, (131) 407
  of typhoid, (70) 281
Dietetics, hydrotherapy and physico-mechanical therapeutics, necessity of knowledge of, *738
Digestive disorders, obstinate, (127) 282
  organs, diseases of, (130) 142
Digitalis, clinical use of, (30, 31) 468
  hallucinations of, (18) 140
Dilatation, acute, of stomach, (20) 530
  rapid of Eustachian tube by electrolysis, (103) 599
Dionin, thiocol and, notes on, (77) 1632
Dioptric value of cornea, controversy about, (119) 406
Diphtheria, (99) 218, (56) 1000
  antitoxin and intubation in, (6) 281
  antitoxin, points in use of, (89) 218
  antitoxin, results of experiments with, (113) 531
  antitoxin, treatment of, (140) 469, (5) 717
  antitoxin, unusual dosage of, (37) 217
  as carrier of disease, (158) 863
  as complication of measles, (25) 405
  complications of, (40) 217
  diagnosis of, (68) 862
  disinfection in, (36) 345
  extraordinary results in treatment of, (63) 1727
  infection, apparent case of, from well persons carrying diphtheria bacilli, (18) 717
  in Salisbury, N. C., (162) 1701
  intubation of larynx in, (134) 282
  modern management of, (64) 1418
  peculiar outbreak of, (46) 1632
  recent epidemic of, (47) 1632
  treatment of, (120) 346, (129) 469, (37) 531, (102) 1700
  treatment of, other than with antitoxin, (139) 469
  value of antitoxin in, (10) 717
  value of throat cultures in, *1287
Diplococcus pneumoniæ, intracellular occurrence of, in meningitis, *1675
Diplopia, residual sensations as test for, (97) 1700
Disease and sin, (7) 717, (2) 795
Diseased animals, food products from, *1715
Diseases of children, practical points in treatment of, (74) 717
Disinfection in diphtheria, (36) 345
Dislocation, congenital, of hip, (19) 141, (52) 62, (151) 346, (140) 863
  forward, of semilunar bone, (49) 659
  of shoulder, reduction of, by continuous traction, *700
  of tibia, congenital anterior, treated by anthrotomy, (47) 659
Dislocations, multiple pathologic, (48) 1139
Dispensary abuses, hospital and, (27) 1418
Displacements of nasal bones, correction of, (19) 1488
Dissecting room, use of material of, for scientific purposes, (128) 63
Diuretics, condition of kidneys with reference to use of, (1) 530
Divulsion, preputial, vs. circumcision in young, (47) 1488
Doctor as an ethical leader, (62) 1700
  in public life, (79) 141
  the old, (40) 281
  the systematic, (154) 1206
Doctor's contribution to science in past century, (132) 863
  mission, the, (143) 142
Dormiol, (83) 531
Doses, small, therapeutics of, (133) 469
Dosimetric medication in pediatric practice, (48) 531
Drainage after abdominal operations, advantage and disadvantage of, *20, (8) 1001
  in abdominal surgery, (131) 1139
Drink evil, the, (136) 218
Dropsy and *life* insurance, (105) 406
  cellular, (75) 1727
  essential or toxemic, (40) 1418
  hydragogin in, (96) 469
Dropsy without albuminuria, (40) 1418
Drug habit, the, (133) 1489
  habits and their treatment, (91) 62, (126) 282, (124) 599, (36) 717, (108) 1274
  therapy, limitation of, (21) 217
Drugs, pharmacologic action of, (120) 1139
Drumhead, *vibratory* massage of, (64) 1345
Dry heat in treatment of disease, (80) 218
Dry method in surgery, (89) 718
Duehrssen's operation in eclampsia *gravidarum,* (81) 469
Duhring's disease in childhood, (62) 62
Dupuytren's contraction of palmar fascia, (27) 717
  contraction, unique case of, (10) 345
Duodenum, congenital occlusion of, (59) 62
Dust granules in continued malarial fevers, (97) 1559
Dynamic ileus, cases of, (81) 62
Dysentery, (40) 1274, (45) 1345
  acute, (149) 1489
  and magnesium sulphate, (158) 1140
  in Philippines, (4) 598
  treatment of, (155) 1140
Dysmenorrhea, (78) 599
  amenorrhea and, (101) 282
Dyspepsia, epilepsy and, relationship between, (16) 1061
Dystocia from coiling or occlusion of umbilical cord, (9) 217
Dystrophy, progressive muscular, (95) 141, (68) 1700

Ear, difficulties of proper treatment of diseases of, in dispensary practice, (28) 598
  diseases of, from standpoint of life insurance, (119) 1633
  diseases of, relation of profession to, (79) 862
  foreign bodies in, (54) 1139, (76) 1727
  inflammation of, (35) 862
  remarks on diseases of, (153) 470, (30) 937
  troubles in children, importance of early recognition of, (37) 62
  tuberculosis of, (68) 469
Ecbolics, use and abuse of, (35) 141
Echinococcus and hydatids, (124) 1489
Eclampsia gravidarum, Duehrssen's operation in, (81) 469
  infantum, (82) 346
  notes on, (64) 62
  puerperal, (54) 141, *493, (83) 718, (163) 938, (108) 1346
  puerperal, veratrum viride in, (46) 717
Eczema, (123) 1633
  hyperchlorhydria and, *512
  in subjects of ichthyosis, (134) 142
  infantile, treatment of, (152) 1063
  multiforme, involving entire body, (119) 1001
  treatment of, (16) 281, (138) 346
Edema, acute inflammatory, (173) 1275
  acute, of nasal septum, *192
  acute pulmonary, atropia in relieving, (14) 861
  malignant anthrax, (133) 1419
  of lower extremities, (166) 938
  of uvula, palate, pharynx, and epiglottis, (33) 1061
Editor, medical, relation of, to original communications, (61) 717
Education of children, (78) 281
  of defective children, (15) 281
  physical, ideals in, (16) 217
  pre-medical, (8) 1061
Effusions, pleural and pericardial, (46) 1139
Egypt, medicine in, (68) 1001
  one's health in, (13) 1631, (32) 1699
Ehrlich diazo test, clinical value of, (78) 218
Eileiterschwangerschaft, Berstung bei, (107) 938
Elastic ligature, use and limitations of, in intestinal surgery, (6) 1061
  tissue, increase of, in lung in chronic passive congestion, (116) 863

Elective section, symptoms which render, justifiable, (14) 1000
Electricity in gynecologic practice, (111) 141, (87) 718
  what of, (86) 141
Electrolysis in diseases of skin, (19) 62
Electro-magnet in ophthalmic surgery, (36) 62
Elephantiasis, case of, (21) 1418
Embolism of central artery of retina, (51) 1062
  of retinal arteries treated by massage, (95) 1700
  of right lenticulo-optic arteries complicating pneumonia, (14) 405
Emergency surgery in the country, (29) 141
  surgery, thoughts on, (101) 141
Emphysema, general, (119) 531, (147) 938
  of neck, traumatic, (66) 1205
Empyema, (35) 281, (99, 128) 599, *1081, (126) 1419
  medical aspects of, (85) 1139
  of antrum of Highmore, (36) 1000
  of frontal and ethmoidal sinuses, (10) 217
  of frontal sinus, *233
  of maxillary antrum, (31) 1418
  of sinuses with blindness of eye, (67) 469
  post-operative treatment of, (152) 142
Endocarditis, acute, (121) 938
  acute ulcerative, (54) 1000
  during typhoid, (26) 1061
  malignant, cases of, (58) 659
Endometritis, (136) 1062, (93) 1559
  hyperplastic glandular, (66) 1062
Endothelioma of lachrymal gland, (114) 1700
  primary, of lung and pleura, (109) 863
Endothelium in inflammation, role of, *1521
Enteric fever, can typical case of be broken up, (153) 1701
Enterorrhaphy, circular, (146) 63
Entropion and trichiasis, surgical treatment of, (87) 938
Enucleation of eye in two minutes by new method, *1520
Enuresis, cure of, (118) 1062, (60) 1274
Environments of applicant for life insurance, (97) 218
Enzymes, proteolytic, on bacterial toxins, action of, (105) 862
Eosinophiles as constituents of pus, (23) 937
Epidemic influenza, (79) 717
Epidermolysis bullosa hereditaria, case of, *556
Epigastric pain, (90) 346
Epilepsy and dyspepsia, relationship between, (16) 1061
  chloretone in, (148) 863
  consideration of some methods of treating, (78) 717
  etiology and treatment of, (19) 1138
  focal and Jacksonian, topical treatment of, (66) 141
  heredity and, (111) 282
  home management of, (32) 1000
  Jacksonian, (26) 62, (130) 1001
  morbid anatomy of, (46) 62
  plea for broader treatment of, (143) 1063, (75) 1139
  psychic, with report of case, (5) 61
  study of temperature laws in, (20) 795
  traumatic, operation for, (88) 141
  treatment of, (38) 217, (44) 281
Epileptics, ideal colony for, (1) 658
  in Massachusetts, care of, (102) 1206
  in Pennsylvania, condition of, (12) 861
  in Virginia, (45) 1274
  state care of, (58) 1205
Epileptiform condition of reflex nature, (148) 142
Epithelial lip grafts transplanted to orbit, *978
Epithelioma, (149) 1419
  involving tonsil, faucial pillar, tongue and buccal surface, *378
Epithelioma of penis, statistical digest of, (76) 406
  of sphincter muscle of bladder, (29) 217
  primary, of uvula, (10) 530
Epitheliomata, cutaneous, treatment of, (6) 1418
Epithelium, on growth of, *1024
Epoch-making, recent, in medicine, (21) 1632
Epsom water of Vade Mecum Spring, therapeutic study of, (154) 1063
Ergoapiol, (90, 92) 218, (44) 468, (103) 531
Ergograph, certain studies with, (77) 1559
Ergot in obstetrics, (127) 532, (44) 1000
Erickson murder, (15) 1418
Errors in diagnosis, fatal cases from, (44) 1727
Eruption resembling pemphigus vegetans, (45) 141
Erysipelas, (174) 1275
  and pemphigus in infants, (37) 717
Erythrocyte, granular degeneration of, (49) 862
Erythroderma squamosum, case of, *109
Esophagometer, (26) 717
Esophagotomy in children for foreign bodies, (156) 1275
Esophagus, carcinoma of cardiac end of, (28) 281
  carcinoma of, clinical diagnosis of, (6) 937
  foreign body in, (27) 862
  new device for measuring length of, in living, (26) 717
  traumatic stricture of, (27) 1558
Estivo-autumnal fever, (79) 62
Ether anesthesia, practical points on, (81) 862
  blood changes induced by administration of, (56) 862
Ethics, code of, (113) 1633
  of city physicians, (167) 1275
Ethmoiditis, chronic suppurating, importance of preventing, (129) 218
Ethyl alcohol, (89) 346
  alcohol, pharmacology and therapeutics of, (78) 1274
  bromid and chlorid as surgical anesthetics, (17) 1727
  bromid as primary anesthetic to ether or chloroform, (5) 1273
  bromid in adenoid vegetations, (2) 1345
  chlorid as general anesthetic, (34) 468
Eucalyptus, therapeutic uses of, (60) 281
Europhen in cystitis and urethritis, (45) 345
  therapeutic applications of, (22) 468
Eustachian tube, affection of, and spongifying of labyrinth, differential diagnosis of, (116) 1139
  tube, rapid dilatation of, by electrolysis, (103) 599
  tube treated by means of electric bougie, (26) 468
Evisceration without necessity of artificial eye, (103) 346
Examinations, need of greater care in making and in sending patients to state hospitals, (185) 142, (163) 347
Examiners, state boards of medical and dental examiners, appointment of, *5, *7, *8
Exhaustion, nervous, due to West Point training, (20) 62
Exhibition of three cases, (192) 142
Exophoria, treatment of, (120) 206
Exophthalmos, pulsating, case of, (87) 469
  the result of osteoporosis, (100) 346
Exostosis preventing flexion of knee, (160) 63
Expectant treatment, (18) 530, (19) 598, (15) 1699
Experience, practical, (97) 63
Expert testimony as seen by newspaper man, (45) 1000
Exstrophy of bladder, operative treatment for, (55) 218
Extirpation, total, of urinary bladder, (25) 281
Extraordinary cases, report of, (124) 406
Exudates, inflammatory, and their residue in female pelvis, (118) 531
Eye affections, correction of, with glasses, (36) 598
  and ear examinations of railroad employes, (8) 217
  and the general practitioner, (164) 1140
  cases with clinical reports, (82) 1727
  commoner diseases of, (161) 1140, (148) 1419
  complications in acute infectious diseases, (171) 1275
  diseases in relation to tuberculosis of nasal mucous membrane, (74) 1345
  enucleation of, in two minutes, by new method, *1520
  expression of the, (108) 346
  foreign bodies wounding, (43) 1488
  in general diseases, (86) 346
  injury to, from explosion of water glass, (148) 1206
  jars, box for mounting, (150) 1206
  pilocarpin in inflammations of interior of, (48) 717
  injury to, (61) 345
  ball, metallic foreign bodies in, (66) 659
  ball, removing of, (58) 531
  strain, (78) 862
  strain, origin and treatment of, (97) 346
  treatment of, by general practitioner, (51) 1699
  treatment of contagious diseases of, (67) 1700
Eyelids, xanthoma of, (19) 1699
Eyes in relation to life insurance, (117) 1633

Face presentations, (109) 1559, (39) 1699
Facial bones due to adenoids, changes in, *246
Faith in medicine, foundation of, (32) 658
Fallopian tube, adeno-carcinoma of, (89) 1700
False membranes or air-passages complicating measles, (47) 1699
Fan system of heating, ventilating and air supply of certain Buffalo schools, (50) 531
Fascia, surgical anatomy of, (46) 1000
Fat necrosis from a surgical standpoint, *1180
  necrosis in connection with gallstones, report of cases of, *1176
Fatigue and its relation to consciousness, (112) 282
Fats, suggestions for study of, (29) 531
Faucial tonsil, primary syphilitic lesion of, *979
  tonsil, unusual anomaly of, *242
Favus of upper lid, case of, (84) 469
  ringworm and, (73) 1139
Fear as element of nervous diseases, *1526
Feather-beds and colds, (80) 599
Fee, division of, (67) 659
Feet, general remarks on painful affections of, (16) 530
Female diseases, abuse of local treatment of, (35) 345
Femur, bony union in fracture of neck of, (89) 1559
  fracture of, (104) 718
  osteomyelitis of, (68) 1418
  treatment of fractures of shaft of, (166) 1275
Fermentation to disease, relation of, (80) 141
Fertilization, process of, (8) 1488
Fetal stomach, study of, *1674
Fetus, spontaneous version of, with hydroperitoneum, (126) 346
Fever, (65) 1418
  congestive, (98) 599
  malarial remittent, treated with arsenic, (119) 599
  modern theories of, and animal heat economy, (9) 937
Fevers, (163) 63
  management of, (64) 659, (154) 1140
Fibrin in the blood, (4) 1138
Fibroids and pregnancy, (51) 1345
  intraligamentous and subperitoneal, method of operating on, (69) 345
Fibroids, multiple, (82) 1062
Fibroma, calcareous uterine, (56) 598
  of integument cause of pain, (98) 1700
  of mesentery, (14) 598
  of nose, (84) 1418
Fibromyoma of urethra, (56) 598
Fibromyomata complicating pregnancy, (33) 658
  uterine, (114) 1559
Field equipment for medical department of army, (90) 1274
Fifth nerve, intracranial resection of, *1534
Filaria medinesis, case of, (3) 1273
Filtration or gland process, the, (92) 282
Fishes, cutaneous sense organs of, (141) 1206
Fissure of brain, trap-door operations in, (154) 470
  the summit, (12) 598
Fistula, appendiceal, (25) 1345, (65) 1488
  fecal, treatment of, (60) 1700
  in ano, (84) 281, (152) 863
  rectal, (125) 282, (64) 1139
  vaginal, (112) 1700
  vesico-vaginal, (136) 1419
Fistulæ, rectal and anal, (44) 1488
  pleural, following operations for empyema, (150) 1419
  vesico-vaginal, remarks on, (135) 1560
Flagella staining with night blue, (68) 1559
Flexion and adduction, forced, in sensitiveness of hip-joint, (33) 217
Flint murmur in aortic insufficiency, (73) 1418
Fluorin poisoning, chronic, (20) 217
Follicles, rebellious form of diseases of, treatment of, (100) 1139
Food as etiologic factor in disease, (14) 1488
  laws, unjust, (115) 1489
  products from diseased animals, *1715
  study of, consumed, by four members of Harvard boat crew, (28) 62, (25) 141
Foods, artificially prepared, their nutritive value and dietetic application, *1094
  dietetic and gluten, of commerce, (32) 1138
  food economics and food adulteration, (49) 406
Foot, abnormal condition, as cause of knee symptoms, (92) 346
Forceps, axis-traction, (143) 469
  cutting, for operating in postnasal space, (122) 469
  obstetrical, use of, (181) 142
Forearm, congenital defect of, (8) 1699
  treatment of fracture of, (73) 1727
Foreign bodies accidentally left in abdominal cavity, (130) 1206, (55) 1488
  bodies in ear, (76) 1727
  bodies in esophagus and trachea, (151) 1701
  bodies of nose and ear, (10) 937
  bodies passed from rectum, (45) 1139
  bodies, removal of, from air-passages, *1077
  bodies wounding the eye, (43) 1488
  body in eye, location of, by *x*-rays, (148) 63
  body in eyeball for eighteen years, (141) 1275
Formic aldehyde in tuberculosis, (22) 717
Fracture, compound comminuted, of humerus, (165) 1206
  compound, of lower jaw, (145) 938
  of carpal end of radius, (42) 659
  of forearm, treatment of, (73) 1727
  of jaw, intradental splint for, (79) 938
  of neck of femur, treatment of, (56) 218
  of skull, (61) 862
  of skull, compound comminuted depressed, (5) 1699
  simple, of vault, with meningitis, 834

Fractures, ambulatory treatment of, (61) 281, (51) 659
  ambulatory treatment of, involving hip-joint, (151) 142
  compound, of extremities, suggestions for treatment of, (54) 345
  general considerations of, (58) 281
  femur and humerus, (104) 718
  of femur, treatment of, with ambulatory pneumatic splint, *1605
  of humerus, suggestions bearing on, (57) 1062
  of neck, anatomical treatment of, *1661
  of nose, (140) 63
  of shaft of femur, treatment of, (166) 1275
  of skull, observations on, (133) 1206
  ununited, (101) 1062
French Congress of Surgery and Urinology, (37) 1727
Frenum, intermaxillary, means of reducing overgrowth of, (59) 1000, (35) 1061
Frost-bite of cornea, (31) 1632
Fuller, Samuel, pilgrim, doctor and deacon, *1298
Funeral delayed in Philippines, (96) 346
Fusel-oil poisoning with reference to copper-reducing substances in urine, (19) 530

Gall bladder, architecture of, (121) 63
  bladder, surgical malposition of, (60) 1488
  duct, hydraulic pressure to open common, (125) 1062
Gallstone, a large, *265
  in common duct, (107) 1559
  unusual case of, (190) 142
Gallstones, (49, 50) 62, (94) 346
  cholecystectomy for, (32) 1632
  cholecystitis and cholangitis as complication of, *1453
  clinical history and diagnosis of, (164) 863
  diagnosis of, (146) 1001, (1) 1631
  duodenal stenosis due to, (144) 863
  etiology of, (163) 863
  fat necrosis in connection with, *1176
  when to operate upon, (8) 795
Galvanism for uterine hemorrhage, (121) 1559
Ganglion cells, studies in morphology of, in rabbit, (98) 1274
  resection of superior sympathetic cervical, (16) 62, (59) 345
  superior cervical sympathetic, in glaucoma, *1588
Gangrene, carbolic acid, (119) 218, (33) 1488
  case of multiple, *445
  emphysematous, caused by aerogenes capsulatus, (7) 405
  in newborn, (45) 1727
  of bowel wall, (37) 1205
  senile, case of, *1319
  symmetrical, (145) 142
Gas and gas cysts of central nervous system, origin of, (104) 862
Gasserian ganglion, examination of, by Nissl's method, (98) 862
  ganglion in cadaver, removal of, (28) 217
Gastrectomy, partial, for hemorrhagic ulcer, (22) 1138
Gastric *secretions* in chronic rheumatism and rheumatoid arthritis, (33) 468
  surgery, (73) 1488
  ulcer, indications for operation in, (15) 717
  ulcer, surgical aspect of, (76) 659
Gastritis, chronic, (138) 599
  complicated with myasthenia gastrica, (22) 598
  menthol in treatment of, (129) 863
Gastro-enteric infection in infants, treatment of, (38) 468
Gastroenterostomy, (153) 938
  and intestinal resection, (83) 1489
  death after, (39) 141
  indications for, (94) 1419
  vicious circle after, (18) 468, (21) 530
Gastro-intestinal tract, experimental surgery of, (46) 1699
Gastro-jejunostomy in gastrectasis, (31) 717
Gastrostomy, (71) 62
  operation, modified, (134) 1139
Gelatin in hemorrhage, (47) 717
Genital organs, tuberculosis of female, (78) 1205
Genito-urinary diseases, symposium on, (165) 863
  organs, briefs on surgery of, (155) 63, (125) 938
  surgery, anesthesia in, (62) 281
Genuvalgum, (100) 531
German measles, lamellar desquamation in epidemic of, (96) 938
  surgical clinics, impressions of, (128) 1274
Germany, no thieves in, (62) 659
Gestation, ectopic, (87) 346, (74) 531, (64) 1205, (39) 1757
  triple ectopic, (105) 1700
  ruptured ectopic, successfully operated on, (53) 1345, (137) 1633
Giacomini, Carlo, central fissure of, (31) 658
Gingivitis, simple, etiology and treatment of, *161
Girl, American, health of, (139) 1489
Girlhood, gynecological and obstetrical significance of, *174
Girls, measurements of, in private schools, (5) 468
Glanders, diagnosis of, by Strauss method, (67) 1559
Glandular fever, (138) 1346
Glaucoma, removal of superior cervical sympathetic ganglion for, (59) 345
  subacute, resection of ganglia for, (144) 1275
  superior cervical sympathetic ganglion in, *1588
Glioma of the brain, (61) 1139
  of retina, (65) 281, (84) 938, (74) 1700
Gluten and diabetic foods of commerce, (32) 1138
Glycerinated lymph; experiences with, (19) 1558
Glycosuria, transient or simple, (69) 218
Goiter, complicated by stenosis of trachea, (70) 62
  pathology of, (79) 1700
Gonococcus and its toxin, (17) 1000
Gonorrhea, (76) 598, (37) 1488, (50) 1699
  acute, (11) 1488
  acute, modern treatment of, (75) 218
  acute, protargol in, (46) 1727
  acute, report of special committee on, (113) 938
  as social problem, (139) 346
  chronic, (76) 218
  chronic, and post-gonorrheal urethritis, (23) 141
  chronic, dilating irrigations in treatment of, (62) 1139
  comparative treatment of, (61) 659
  etiologic factors in, (165) 863
  in boys, *827
  in women, (166) 863
  is it local or constitutional affection? (82) 599
  local treatment of, (31) 937
  sequelæ of, (169) 863
  special committee of American Medical Association regarding, (137) 1206
  therapeutics, capital sin of modern, (39) 717
  treatment of, (25) 345, (136) 407
  urethritis or, (122) 1139
  what are the consequences of, (103) 406
Gonorrheics, plea for, (126) 163
Good of the order, for the, (90) 1062
Gout and obesity, respiratory conditions dependent upon, (32) 1273
  and rheumatism, (96) 1559
  irregular, and hepatic inadequacy, (142) 469
  prevalence and treatment of, (176) 1275
Government duty, a (149) 1701
Granular lids, (24) 1488
Graves' disease, consideration of, ([illegible]) 863
Greek terms, on onomatology in regard to, (85) 1001
Growing pains, (40) 468
Growths, intrathoracic new, (59) 1488
Guaiacol treatment of tuberculosis, (128) 1700
Gude's *pepto-mangan*, clinical report on, (95) 1559
Guinea-worm disease, (3) 1273
Gumma of ciliary body, (66) 1700
Gunshot wound of kidney and stomach, (20) 1138
  wound of right lung with complications, (98) 1062
  wound of spine, (28) 1727
  wound of spleen, (60) 937
  wound of stomach, with recovery, (21) 1138
  wound, penetrating, of abdomen, (82) 531, (119) 1274
  wounds of pregnant uterus, (35) 1345, (36) 1418
  wounds of stomach, (144) 1063
  wounds, results of, in late war, ([illegible]) [illegible]37
Gymnastics, aural, (111) 406
Gynecic operations, multiple, (107) 1062
Gynecologic cases of special interest, (77) 1062
  department of Boston City Hospital, service in, (12) 1726
  impressions residual from three decades of general practice, (8[illegible]) 1205
  work in hospitals for insane, (43) 406
Gynaecologische krankheitsbilder, (79) 659
Gynecologist as consultant, *573
Gynecology, (184) 142
  and obstetrics, progress of, (35) 1000
  as special branch of surgery, (7) 1418
  conservative, post-operative sequelæ and, (37) 598
  generalist and special field of, (100) 1346
  its contribution to general surgery, *550
  modern, (159) 142
  modern minor, resources of, (128) 346
  non-surgical, neglected symptoms of, (80) 717
  some of the uses of electricity in, (87) 718
  topical treatment in, (90) 1206
  use of, by general practitioner, (22) 862, (19) 937

Hallucination of snakes, (40) 1558
Hallucinations of *digitalis*, (18) 140
Hamburg and Berlin, hospitals of, (36) 862
Hand disinfection, (158) 142
Hanging, anatomy of, (53) 469
Hare-lip, cleft palate and its association with, (27) 530
  double, closure of defect in, with absence of intra-maxillary bone, (81) 469
Harris, Dr., case, (32) 795
Havana, work of sanitary department of, with reference to suppression of yellow fever, (13) 795
  sanitary work in, (49) 1727
Hay fever, (59) 598
  fever, future treatment of, (3) 281
Headaches, (81) 281, (14) 345
  causes and treatment of, (99) 1632
Head *injuries*, intracranial pressure after, (26) 530
  injuries to, in newborn, (32) 468
Healing, subjective, rationale of, (130) 532
Health, climate for, (158) 938
  fads of to-day, (69) 469
  in state of Indiana during August, (96) 1062
  resorts of Southwest, (94) 1001
Hearing, (77) 1205
  impaired, influence of, on development *of child*, (40) 1061
He[illegible] (106) 1346
  [illegible] of dis-
  1
  [illegible] in, (71)
  469
  disease, compensation and failure of compensation in, (147) 346
  disease, congenital, (81) 1205
  disease, diagnosis of, (93) 218, (15) 530
Heart disease, hygiene and mechanical treatment of, (15) 1000
  disease, *observations* on, (22) 1000
  disease, pre-existing and surgical operations, (73) 469
  diseases, therapeutics of, (2) 530
  employment of recuperative power of, as estimate of functional ability, (1) 861
  lesion, *congenital, (81) 1489*
  lesions of infancy and childhood, (65) 218
  murmur, variations in course of blood current in, (101) 1700
  palpitation of, (104) 1419
  safest anesthetic in organic disease of heart, (74) 469
Heat economy, animal, and modern theories of fever, (9) 937
Hedonal, (83) 531
  clinical observations on, (132) 1633
Hegar's sign in differentiating pregnancy from uterine myoma, value of, (72) 345
Hematemesis, optic atrophy following, (96) 1700
Hematocele, suppurating, treatment of, (62) 218
Hematology and its *relation to* diagnosis, (93) 1632
Hematuria, renal, and nephrolithiasis, (122) 1700
Hemianopia, (111) 63
Hemianopsia, binocular, and optic nerve atrophy in diabetes mellitus, (64) 345
  homonymous, of cortical origin, (117) 1700
Hemiatrophy, cerebral, in adult, (98) 718
Hemiplegia, (42) 1699
  massage in, (14) 1726
Hemoglobinuria, malarial, (142) 1419, (78) 1727
Hemoglobinuric fever, cases of, (153) 1140
Hemolymph glands, contribution to histology and pathology of, (95) 862
  glands, human, normal histology of, (134) 1700
Hemolysis, (6) 468, (33) 531
Hemophilia, antenatal treatment of, *503
  neonatorum, (82) 218, (63) 598
Hemorrhage and sepsis following nasal operation in a "bleeder," (146) 470
  cerebral, symptomatology of, *908
  concealed accidental, (124) 1206
  dangerous, after removal of enlarged tonsils and adenoids, *911
  fatal, from varix of pampiniform plexus, *199
  from a pyothorax, (121) 282
  gelatin in, (47) 717
  into orbit of newborn, (149) 1275
  leucocyte counts in, *501
  meningeal, (80) 1489
  mononephrous, nephrectomy for, (24) 1699
  nasal, treatment of, (76) 1700
  of retina, (89) 938
  post-abortion, (72) 281
  post-operative, *16
  postpartum, (132) 599, (127) 1489
  prevention of, in ophthalmic operations, by use of adrenalin chlorid, (116) 1206
  secondary, two cases of, (99) 531
  uterine, (83) 1632
  uterine, adrenalin in, (125) 1560
  uterine, following abortion, (131) 1001
  uterine, galvanism for, (121) 1559
  uterine, stypticin in, (76) 346
Hemorrhages, pulmonary, influence of Colorado climate on, (9) 1138
Hemorrhagic diseases of newborn, (65) 598
Hemorrhoidal circulation, study of, (23) 598
  clamp, new, (21) 62, (1) 1000
Hemorrhoids, (125) 599, (24) 795, (126) 1139, (42) 1418, (140) *1419*, (43) *1632*

Hemorrhoids, internal, treated without general anesthesia, (52) 1274
  operation for radical treatment of, *1658
Hemostasis, electro-thermic, in abdominal pelvic surgery, *419
Hennepin County Medical Society, early days of, (48) 1000
Hepatic cirrhosis, (59) 469
Hepatopexy, (36) 1061, (140) 1275
Hepatotomy, special treatment of biliary calculi with special reference to, *1573
Heredity, (35) 405
  and acquired characteristics as social question, (143) 1489
  and acquired characters, (129) 1633, (72) 1727
  and epilepsy, (111) 282
  and tuberculosis, (18) 1138
  as factor in life insurance, (71) 1062
  as social question, (143) 1489
  in mental disease, (26) 1345
  study in, (141) 863
Hernia, autoplastic suture in, *1162
  complicated by hydrocele, (132) 28
  complications of injection treatment of, (132) 1275
  diaphragmatic, (80) 1489, (19) 1632
  early infantile, inguinal, of vermiform appendix, (114) 1274
  epigastrica, (14) 1631
  epigastrica and fatty tumors in epigastrium, (31) 1699
  incarcerated, intestinal obstructions caused by, (53) 1274
  inguinal, in children, radical cure of, (37) 1418
  inguinal, operations for, (52) 1632
  inguinal, surgical treatment of, (38) 1000
  inguinal, worsted truss in, (131) 1206
  left cecal, (61) 218
  of urinary bladder, (9) 62
  permanency of cure in radical operations for, (2) 1631
  radical cure of femoral and inguinal, (53) 218
  reduced "en bloc," (36) 1138
  strangulated, (164) 938, (11) 1061
  strangulated, causes of death in, (58) 1727
  strangulated, in infants, (17) 1138
  strangulated inguinal, (104) 718
  strangulated, of bladder, (23) 658
  strangulated umbilical, (65) 1274
  ten years after abdominal section, (129) 1062
  treatment of, (72) 717, (31) 795
  umbilical, (62) 1559
  umbilical, adhesive plaster, strapping in, (26) 405
  umbilical, new procedure for, (42) 1727
  ventral, (49) 281
Heroin, (109) 406
  hydrochlorid, action of, (42) 62
  indications and contra-indications of, (36) 1488
  therapeutics of, (101) 1419
Herpes zoster opthalmicus, *1667
  zoster ophthalmicus resulting in loss of eye, (90) 469
Heterophoria, non-surgical treatment of, *1359
  operative treatment of, *1361
  tests for, (144) 1206
Hiccough, obstinate, (81) 1139
Hip, bloodless amputation at, (149) 142
  congenital dislocation of, (151) 346, (140) 863
  disease, 719
  disease, acute, treatment of, (15) 658
  disease, new procedures in treatment of, (17) 717
  disease, remarks on treatment of, (14) 658
  dislocation of, 1011
  dislocations, congenital, bloodless reduction of, (48) 1632
Histopathology, double knife in, (134) 1419
Holocain hydrochlorid, (125) 469
Horace, medicine and doctors of, (157) 863
Hospital and dispensary abuses, (27) 1418
Hospital cars for railway service, (108) 63
  city isolation, (31) 217
  may it steal cases, (123) 1139
  mismanagement, (99) 1206
Hospitals and sanatoria founded, owned and controlled by medical profession, (100) 1206, (138) 1700
  city vs. independent, (75) 937
  for insane, tendencies in, (104) 1206
  in the smaller towns, (79) 1139, (168) 1275
  of Hamburg and Berlin, (36) 862
  of Paris, visit to, (59) 1274
Hot air as therapeutic agent, (3) 598
  air, further use of, (62) 1205
Hoyt, Frank C., (53) 598
Hydatid disease of breast, (51) 862
  mole, (123) 346
Hydatids, echinococcus and, (124) 1489
  of uterus, (75) 1062
Hydragogin in dropsy, (96) 469
Hydraulic pressure to open common gall duct, (125) 1062
Hydriatic management of pneumonia, (152) 1419
  substitutes for alcohol, (89) 862
Hydriatics in chlorosis, (57) 345, (104) 1346
Hydrobromate of hyoscin in chorea, (69) 1700
Hydrocele, hernia complicated by, (132) 282
  inversion of tunica vaginalis for, (57) 281
  of the tunica vaginalis testis, radical cure of, (49) 717
Hydrocephalus, chronic, in infants, (39) 1205
  circular tumor and, (38) 1699
Hydrochloric acid in gastric contents, new method of determining amount of, (34) 345
Hydrophobia, (139) 407, (56) 469, (116) 1489, (132) 1560
  and Pasteur methods, (1) 281
  laboratory observations on, *1442
  symptoms and treatment of, (76) 1205
Hydrops, intermittent, (7) 1345
Hydrorrhachitis or spina bifida, *627
Hydrosalpinx, torsion of, resulting in infarction, (77) 1274
Hydrotherapy in chronic disease, (2) 1061
  in neurasthenia and other nervous affections, use of, (119) 1062
  lessons of decade in, (116) 1062
Hydrothorax, right-sided cardiac, (67) 141
Hygiene and hygienic legislation, (30) 1558
  and sanitary science in nineteenth century, (156) 938
  object lesson in, (49) 1727
  of early school life, *1025
  of infancy and childhood, points in, (182) 142
Hyperacidity, (12) 140
  of stomach contents, (87) 1489
Hyperchlorhydria and "billous attacks," *512
Hyperemesis gravidarum, (133) 142
Hyperpyrexia, lobar pneumonia with, (19) 217
Hypertrophy, obstructive prostatic, (158) 1206
  prostatic, (51) 531, (97) 1632
  prostatic, Bottini operation in, (145) 470
  prostatic, etiology of, (101) 1346
  prostatic, treatment of, (134) 346, (159) 1275
  senile, of prostatic gland, (27) 62
  senile, of prostate, prostatectomy vs. prostatotomy in, *1156
Hypertonus, arterial, and arteriosclerosis, (81) 659
Hypertrophies, turbinal, reduction of, (72) 406
Hypno-magnetism and suggestive therapeutics, (99) 1062
Hypnotics, clinical value of some newer, (83) 531
  in tuberculosis, (166) 63
  newer, (2) 345
  observations on use of, (135) 282
Hypochondriasis and hypochondriacal ideas, (56) 1062
  deleterious results following operations in, (14) 937
Hypodermic injections, significance of concentration and multiplicity of, (101) 1274
  medication, (136) 282
Hypodermoclysis, administration of quinin by, (81) 1727
  in pediatric practice, (11) 1699
  technique and use of, (115) 218
Hypospadias, (88) 1062
Hysterectomy, abdominal vs. vaginal, (161) 142
  combined vago-abdominal operation in, (106) 1559
  for fibroid tumor, (56) 718
  for uterine cancer, status of, (64) 406
  lesions of bladder during, (8) 1558
  new method of performing, (144) 470
  partial, for puerperal sepsis, (46) 218, (63) 1062
  with complications, (140) 407
Hysteria, (83) 406, (77) 862, (54) 1274, (71) 1700
  in children, (119) 1489
  nature of, (63) 1205
  racial factor in, (35) 717, (126) 1274
  traumatic, (8) 658, (20) 717
Hystero-epilepsy, concussion of brain and, (13) 1345
  with discharge of blood through intact auditory canal, (21) 468
Hysteromyomectomy, complicated, (143) 63

Ichthyosis, (113) 599
Idiocy, congenital, (59) 469
Idiot and imbecile children, (107) 218
Ileocolitis, acute, (125) 218
Ileus, acute, due to chronic obstruction, (159) 63
  caused by neoplasms, (78) 1001
  due to mechanical obstruction to fecal current, (79) 1001
  spastic, (18) 345, (32) 405
Iliac fossa, infectious processes in, (92) 62
Immunity and serumtherapy, (64) 1274
Impairment of vision of one eye, means of determining, (51) 1418
Impetigo contagiosa, bullous forms of, (84) 1205
Implanting, late, of glass ball in orbit, *978
Inadequacy, hepatic, and irregular gout, (142) 469
Incision in vaginal section, mode of, (82) 1700
Incudectomy in hardness of hearing, (50) 1345
Index of diseases alphabetically arranged with their modern treatment, (104) 1001, (111) 1346, (76) 1632
Indiana, health in, during August, (96) 1062
Indigestion and gastritis of infants, stomach washing in, (123) 938
Inebriety, (84) 1274
  alcoholic, therapeutic management of, (109) 1346
  causes, duration, prophylaxis and management of, (1) 405
  need of broader views in regard to, (100) 1001, (136) 1275
Infancy and childhood, heart lesions of, (38) 281
  diagnosis in diseases of, (43) 62, (60) 717
Infant feeding, (136) 469, (25) 1632
  feeding, milk sugar in, (66) 1488
  feeding, percentage modification of cow's milk for, (72) 1274
  feeding, suggestions in, (3) 717
Infants, chronic hydrocephalus in, (39) 1205
  teething in, (42) 1000
Infected wounds treated with tincture of iodin, (10) 468
Infection as etiologic factor in abortion, (80) 1062
  gastrointestinal, (72) 598
  gastrointestinal, of children, (107) 282
  in surgical sense, (47) 1418, (21) 1488
  intra-uterine, best treated by intra-irrigation, (50) 1000
Infection, malarial, treatment of, (41) 1274
  spread by domestic pets, (2) 598
  [illegible] abor- [illegible]
  [illegible] labor, *619
  through food, (97) 469
Infections, acute and chronic, mast-cells in, *1596
  of soft tissues of female pelvis, (81) 1700
  septic, of kidney and cystonephroses, (65) 141
  streptothrical, (68) 598
  surgical, and cystic enlargements of kidney, (63, 64) 141
Infectious diseases, *97
Inflammation, acute lacunar, of tonsils, (62) 1000
  acute mastoid, operative treatment of, (17) 217, (60) 1000
  chronic purulent, of middle ear, treatment of, (53) 1559
  of ear, (35) 862
  of mouth, neurotic, (83) 62
  of posterior part of eye, new operative procedure for treating, (12) 937
  [illegible] of mucous [illegible] 862
  [illegible] in, *1521
  treatment of, (110) 1139
  uric acid, of middle ear, *514
Inflammations, catarrhal, of upper respiratory tract, (120) 218
Inflammatory affections of nails, (54) 1418
  exudates, non-surgical treatment of, (116) 218
Influenza, (139) 142
  as causal factor in acute mastoiditis, (70) 1139
  aural complications of, (49) 1345
  cardiac lesions of, (59) 937
  epidemic, (79) 717
  ocular complications of, (102) 218
  psychoses of, (57, 58) 937
  pulmonary form of, (101) 218
  sunshine and, (28) 1418
Infrapubic opening of pelvic appendiceal abscesses, (86) 1139
Infusion, intravenous saline, (154) 1275
Inguinal canal, new method of operating on, (84) 531
Injuries, feigned and real, *1295
  of extremities, conservative treatment of, (137) 63
Injury to eye from explosion of water glass, (148) 1206
Insane, another plan of state care of, (81) 938
  Corning's anesthesia among, (176) 863
  diathesis, heredity and transmission of, (107) 1001
  Indiana laws for commitment of, (77) 599
  jury trials of, (150) 63
  limitations of surgical work for, (9) 468
  needless public expense in care of, (70) 1727
  physician's duties in committing to hospital, (110) 282, (113) 1419
  systematized history of, (117) 1489
  women physicians in care of state, (93) 1062
Insanities, acute, treatment of, (133) 532, (76) 717
  of adolescence, (55) 659
Insanity, acute, treatment of, in general hospitals, (20) 598 598
  and criminal cases, (42) 1274
  cases of, (124) 1062
  circular, clinical researches in, 106) 218
  clinical classification of, (104) 938
  early symptoms indicating, (13) 217
  evidences of, (88) 1139
  home treatment of, (105) 1489
  importance and difficulties of correct diagnosis in, (33) 141
  impoverished blood and, (123) 1559
  prevention of, (110) 1274
  puerperal, (29) 62, (94) 1274, (137) 1275
  prophylaxis of, (113) 282
  relation of pelvic diseases to, (43) 345

Insanity, should determination of, in law differ from that in medicine, (151) 1275
Insolation complicated by lobar pneumonia, (98) 1001
Insomnia, treatment of, (77) 62
Inspection of schools, daily medical, (17) 1488
Institutionalism, (97, 101, 103) 1206
Instruments, sterilization and care of, (88) 469
Internal lesions, nature of, in deaths from superficial burns, (19) 1418
  medicine in nineteenth century, (94) 282, (136) 599
International Congress of Nurses, report of, (45) 1632
Interocular base line, measurement of, (82) 938
Intestinal antiseptics, (130) 938
  diseases of children, (133, 137) 1139
  obstruction, acute, (39) 1632
  obstruction, clinical aspect of, (4) 717
  obstruction, chronic, (74) 1139
  obstruction diagnosed by *x*-rays, (19) 1000
  obstruction, diagnosis and treatment of, (51) 141
  obstruction, due to adhesions, (26) 141
  obstruction, due to constricting bands, (38) 1138
  obstruction due to Meckel's diverticulum, (123) 1274
  obstruction following abdominal section, (138) 863
  obstruction from surgical standpoint, (72) 1632
  obstructions caused by incarcerated hernia, (53) 1274
  perforation, surgical intervention for, in typhoid, [illegible] 863
  perforations, (33) 1345
  surgery, knot within the lumen in, *952
  tract, experimental surgery of, (45) 1699
  tract, treatment of some chronic conditions of, (149) 1063
Intestine, primary resection of, in gangrenous hernia, (2) 405
  searcher, perforated, (156) 1206
  traumatic rupture of, (11) 345
Intestines, pistol-shot perforation of, (173) 863
Intoxications, classification of, from pathologic standpoint, (5) 405
Intracranial pressure after head injuries, (26) 530
Intra-irrigation in intrauterine infection, (137) 1346
Intranasal operations, technique of, (71) 1345
Intratracheal injections in bronchial and pulmonary affections, (9) 1000
Intra-uterine amputations, *547
Intubation of larynx, (133) 1275
  report of an, (130) 218
Intussusception, case of, (39) 62, (37) 1138
  during first year of infancy, (127) 863
Iodids and mercury in syphilis, comparative value of, (133) 282
Iowa State Association of Railroad Surgeons, (98) 141
  Volunteer Infantry, medical history of 49th, (122) 1559
Iridectomy, extraction of cataract without, *1513
Irido-chloroiditis, double suppurative, in association with purpura hemorrhagica, (90) 469
Iris, rupture of, from contusion of eyeball, (116) 406
  total retroflexion of, *1289
Islands of Langerhans of pancreas in diabetes, degeneration of, (71) 1559
Jaundice, obstructive, mortality of operation for, (63) 218
Jaw, sarcoma of, (63) 1274
  traumatism, (169) 1206
Jenner, Edward, and smallpox before and after introduction of vaccination, (121) 1206
Jews, infrequency of tuberculosis among, (21) 1345
Johnson, Samuel, medical history of, (13) 717
Joint injuries, diagnostic test and constitutional treatment in, (159) 346
Jonnesco's operation, present status of, (102) 469

Katatonia, (110) 141
Keloid, (123) 282, (113) 599
Keratosis palmaris et plantaris, (77) 531
Kidney, amyloid, anatomy of, (95) 1489
  and stomach, gunshot wound of, (20) 1138
  carcinoma of, unusual case of, (136) 1700
  case of abscess of, (89) 1062
  congenital cystic, *825
  contribution to surgery of, *172
  disease, ophthalmoscopic examination for, (21) 405
  disease, x-ray in diagnosis of, (123) 1700
  floating, in women, (1) 937
  left, congenital pelvic malposition of, (22) 281
  medical treatment of diseases of, (43) 937
  minor surgery of, (3) 345
  some surgery of, (79) 1559
  wandering, (153, 160) 142, (20) 937, (110) 1001
  physiology of, (80) 281
  stone diagnosis and treatment, (5) 1138
  subcutaneous wounds of, (40) 1699
  surgical infections and cystic enlargements of, (64) 141
Kidneys, anatomy of, (54) 531
  condition of, and use of diuretics, (1) 530
  cystic, case of, (49) 141
  during pregnancy, (124) 1700
  gouty affections of, (3) 530
  physiology of, (93) 1489
  remarkable condition of, in eclampsia parturientium, (48) 218
  stones in, (125) 1419
Kitasato, Japanese pathologist, (81) 599
Klebs-Loeffler bacillus, clinical significance of, (3) 1418
Knee-joint, monarticular inflammation of, (62) 1559
  surgery of, (99) 1419
Knife, failure of, in treatment of cancer, (28) 1205
  new rectal fistula, (1) 1000
Knot within the lumen in intestinal surgery, *952
Kraske operation, is it justifiable in women? (39) 598
Kraurosis vulvae, (81) 218

Labor bag, antiseptic, (119) 1206
  can injuries to parturient canal be avoided during, (137) 1063
  emergencies of, (101) 1489
  how to conduct case of, (80) 406
  in dislocation of uterus, (65) 1205
  normal, how to conduct case of, (125) 1700
  second stage of, conduct of, (60) 531
  some emergencies of, (132) 938
  sudden death after, (84) 1700
  three protective points in management of, (104) 1632
Laboratory aid in surgical technique, (30) 1205
  clinical, in private practice, (49) 1418
  clinical, relation of, to hospital, (106) 1206
  feeding with reference to modified milk fund, (45) 531
  research, modifications in operative surgery from, (2) 1558
Laceration, urethral, (41) 281
Lacerations, cervical, what is significance of, (77) 141, (46) 218, (3) 1000
  of pelvic floor, (99) 1700
  vaginal and cervical, (136) 1346
Lachrymal gland, endothelioma of, (114) 1700
  pipette, use of glass, (53) 1062
Lactic acid, new method of testing for, (31) 531
La grippe, experience with, (167) 63
  in children, (80) 938
  with pulmonary and cerebral complications, (163) 1206
Lamellar desquamation in epidemic of German measles, (96) 938
Lane lectures, the, (17) 861, (19) 862, (5) 937, (16) 1000, (17) 1061, (7, 27) 1138, (21; 24) 1205; (7, 21) 1273, (23, 30) 1345, (8) 1418, (15, 27) 1488
Laparotomy, (137) 1560
  cases, hints in management of, (164) 1206
Laryngeal disturbances in diseases of central nervous system, (85) 62
Laryngitis, atrophic, (131) 218
  edematous, cases of, *182
  treatment of, *177
  tuberculous treatment of, (2) 861
Laryngologic and rhinologic literature, critical and desultory remarks on, (126) 218
Laryngology and its place in medical education, (31) 1138
  in medical education, (18) 1061
  study of, in university and in the higher medical education, *158
Larynx, improved introducer for intubating, (120) 142
  inflammatory and ulcerative, treatment of, (54) 62
  intubation of, (133) 1275
  stenosis of, following fractures, (118) 469
Laws for commitment of insane in Indiana, (77) 599
  medical, enforcement of, depending on organized profession, *1301
  medical, of Canada, *1318
  medical, state, difficulties met with in enforcing, *1303
  natural, (90) 531
  regulating practice of medicine in U. S., *1304
Leg, re-amputation of, (137) 1489
  ulcers of, (110) 63
Legal disabilities of natural children, (118) 282, (116) 1419
Legislation, hygienic, hygiene and, (30) 1558
  in crime and disease, (129, 142), 1489
  medical, necessity of, (50) 281
Leiter's apparatus for ear, modified by Amberg, *323
Lens, cataractous, temporary clearing of, *1517
  congenitally dislocated, spontaneous couching of, (93) 599
Lenses, bifocal, (12) 658
  demonstration, for teaching purposes, (104) 346
Leper law, *some of the difficulties of getting Europe to adopt,* (78) 531
Leprosy, case of, *553, (99) 1001
Leprous Japanese and salmon canning, facts bearing on question of, (126) 1062
Lesions of nervous system due to syphilis, (108) 1700
Leucemia, myelogene, (87) 1559
Leucocyte counts in hemorrhage, *501
Leucocytes, chemical properties of, (12) 795
  eosinophile, and nuclein bases, (25) 862
Leucocytosis and dust granules, in continued malarial fevers, (97) 1559
Leucopenia, alloxuric excretion in case of, (97) 1274
Leucoplakia, (4) 1558
Leukemia, acute, (76) 1418
  diagnosis of, from standpoint of blood changes, (100) 469
  splenic myelogenous, with tuberculosis, (77) 469
  spleno-medullary, (70) 659
Licensing, *11
Lid retractor, (96) 599
  upper, and eyeball, perforating wound of, (54) 1062
Life assurance, *examinations for,* (83) 659
  insurance, appendicitis and, (132) 1346
  insurance, heredity in, (71) 1062
  insurance, location in its bearing on, (73) 1062
  insurance, renal functions and, (6) 530
  insurance, substandard risks in, (128) 1346
  insurance, syphilis and, (133) 1346
  needlessly sacrificed, (113) 406
  the problem of the age, (90)
Ligation of external carotid for severe hemorrhage, (54) 218 1489
Light and radiance in treatment of disease, (19) 795, (17) 937
  as therapeutic agent, (118) 1001
Lightning stroke, (58) 1488
Lip, malignant pustule of, (122) 599
Lipoma removed from cheek under medullary narcosis, (12) 217
Lipo-myoma of uterus, (90) 1700
Lithemia, (35) 217
Liver, abscess of, (129) 1206
  and alimentary tract, reflections on disturbances of, (34) 405
  cirrhosis of, 29, *877, *883, (105) 1632
  diseases of, over-feeding in, (100) 938
  movable, (36) 1061, (140) 1275
  necroses of, (117) 863
  primary sarcoma of, (31) 1558
  ptosis of, (143) 863
  stab wound of, (36) 1273
  syphilis of, (10) 598
Localization of movements and muscular and cutaneous sensibility, (76) 1559
Location in its bearing on life insurance, (73) 1062
Locomotor ataxia, (135) 863, (107) 1700
  ataxia, early recognition of, (120) 938, (127) 1062
London hospitals, visit to, (48) 1699
Longevity, bodily mutilations and, (24) 530
  of people living in valley below Louisville (37) 1000
Luetischen Primaeraffect der Nase, (78) 659
Lumbar growths, removal of, for malignant disease, (104) 1700
Lungs and pleura, diseases of, (44) 62, (55) 598, (45) 1488
  foreign bodies in, (34) 658, (175) 863
Lupus treated with oils, (138) 1001
  vulgaris, (33) 62
  vulgaris, case of, (25) 1488
  vulgaris and psoriasis, (90) 938
  vulgaris, therapeutic value of, *x*-rays in, (80) 1139
Lymph glands, mesenteric, tuberculosis of, (127) 346
Lymphadenitis, cervical, surgical treatment of, (42) 717
Lymphangioma, (4) 1000, (62) 1529
Lymphatic gland, blood vessels of, (131) 63
Lymphatics in liver, origin of, (125) 63
Lymphomata, tuberculous, of neck, (86) 1001
Lymphosarcomatosis, lesions in, (115) 863
Lysol, (109) 1062

Macula, new formed physiologic, (146) 1275
Maggots in nose, (148) 470
Magnesium sulphate, dysentery and, (158) 1140
Malaria, (134) 407
  action of quinin eosolate in, (95) 469
  causation and prevention of, (47) 1139
  diagnosis of, in children, (42) 531
  masked, (38½) 1488
  mosquitoes in, (127) 1001
  observations in cases of, (137) 407
  of tropics, (96) 141
  some general remarks on, (112) 1001
  some phases of, *678
  three varieties of, (79) 281
Malarial fever, continued, (145) 1489
  fever, inguinal bubo as complication of, (4) 61
  fever, inoculation theory of, through agency of mosquitoes, (41) 531
  fever, lecture on, (86) 62
  fevers, (160) 938
  fevers in *Central America,* (13) 598
  infection, prevention of, (38) 862
Malformation, congenital, of vagina, (24) 598
Malformations, congenital, of upper extremity, (13) 140

Malignancy, Max Schüller's views on, (20) 862
Malignant disease, treatment of, *1013
  neoplasms, (70) 717
Malposition, (60) 1418
Malta fever, (114) 863
Mammary gland, surgery of, (160) 1206
Man—the product of two forces, (79) 1727
Mania, nosologic study of manifestations of, (30) 598
  religious, physiologic therapeutics of, (116) 531
Manila Military Hospital, a, (54) 1727
Manometer, chest pantagraph and, (9) 1061
Marasmus in children, (114) 1001
  infantile scurvy and, (68) 1488
Married life, some evils of, (35) 531
Massac County Medical Society, history of, (114) 1062
Massage, (54) 1699
  and movements in hemiplegia, (14) 1726
  of stomach, (6) 1631
  of stomach, shall it be recommended, (6) 1699
  pelvic, in gynecologic lesions, (30) 141
  pneumatic aural, rationale and technique of, *575
  roller for application of heat and cold, (23) 795
  vibratory, of drumhead, (64) 1345
Mast-cells in acute and chronic infections, *1596
Mastitis, tuberculous, (24) 141
Mastoid, auscultation of, (128) 218
  cases, (88) 659
  disease, double, (98) 469
  indications for operation on, (85) 659
  operation for caries of, (36) 1558
  operations, series of, (66) 469, (10) 658, (73) 1345, (123) 1346
  process, indications for trephining, (147) 863
Mastoiditis, (59) 281, (60) 1000
  acute, influenza as causal factor in, (70) 1139
  acute, reasons for early operation in, (65) 1700
  acute, without tympanic inflammation, *320
  advisability of early operative intervention in, (4) 1205
  and meningitis in otherwise healthy adult, (13) 1138
  diagnosis and treatment of, *247
  early treatment of, (119) 469
  peculiar case of, (95) 718
  with operation, (106) 141
Materia medica and therapeutics, why have they not advanced more rapidly, (176) 142
  medica, contribution to newer, (53) 1699
Maternal impressions, (131) 1633
  impressions do not cause stigmata of degeneration, (6) 405, (142) 1063, (83) 1205, (155) 1275
  obligation, degeneration of, (109) 63
Maternity case, syphilitic fever as complication in, (128) 1062
Mathematics in medicine, (13) 62
Maxilla, inferior, multilocular cyst of, (11) 530
Measles complicated by appendicitis, (28) 141
  diphtheria as complication of, (25) 405
  false membranes or air-passages complicating, (47) 1699
  scarlatina, and, high temperature in, (94) 531
  scarlet fever and, prevention and sequelæ of, (173) 142
Meat and milk, transmission of tuberculosis through, (1) 1273
Meckel's diverticulum, intestinal obstruction due to, (123) 1274
  diverticulum, volvulus of, (92) 1700
Median nerve, protection of inflamed, by gold foil, (163) 142
Mediastinum, anterior, Milton's method of exposing, (128) 1206
Mediate palpation, (17) 345
Medical cases, (73) 62
  colleges and standards, (97) 406
  communications, privileged, (34) 1205
  director, modern, (72) 1062
  editor and original communications, (60) 406
  education, *742
  education, aim of, *736
  education, improvements in, (62) 406
  education in Japan, (40) 717
  education, observations regarding, (20) 345
  education, problems in, (21) 1000
  examiner in fraternal insurance, (68) 1062
  history, few great names in, (171) 142
  journalism, thoughts on ethics of, (81) 346, (61) 406
  legislation, some shortcomings of attempted, (77) 717
  man of to-day, outlook of, (4) 658
  melange, (158) 1701
  men prominent in civil and military affairs, (71) 141, (77) 406, (118) 1274
  organization, necessity for, (45) 468
  practice acts in United States and Canada, *1304
  practice, gleanings from, (37) 1293
  practice, native, in Philippines, (27) 468
  practice, specialism in, (23) 405
  profession and private charitable institutions, (30) 1488
  profession, essentials for true dignity of, (38) 658
  profession, ethical side of, (159) 470
  profession, evolution, (44) 1274
  prospects, (30) 217
  school, making of a modern, (7) 1488
  schools in United States, *744
  shock, *683
  societies, benefits of, (41) 1699
  society, functions of, (38) 1345
  society, need of a live, (48) 345
  Society of North Carolina, meeting of, (167) 142
Medicine a science, (88) 1001
  advanced to realism in, (34) 862
  American therapeutic contribution to, (151) 1063
  and doctors of Horace, (157) 863
  and surgery, (144) 142
  and surgery, borderland between, (14) 1699
  and surgery, few new things in, (98) 1419
  career of, (82) 406, (129) 1274
  endowment of, (8) 1138
  fifty years of, (33) 1632
  has it a scientific basis, (68) 531
  in Colorado, report of committee on history of, (91) 1488
  in Egypt, (68) 1001
  internal, from surgeon's standpoint, (41) 217
  laws regulating practice of, in United States, *1304
  limitations of, (105) 63
  nose and throat in history of, (80) 1345
  physician in relation to dispensing of, (17) 1273
  practice of, from business standpoint, (52) 531
  preventive, advances in, (62) 1345
  progress in, (105) 141
  recent epoch making in, (131) 1062
  science of, (105) 1419
  sociologic problems of, (130) 1274, (59) 1458
  young man in, (53) 1139
Medicines, method of carriage of, for field hospitals, (55) 1727
Medicolegal cases, (139) 1140
  diplomas, establishment of, (14) 1418
Melancholia, (99) 141
  etiology of, (18) 598
  followed by stupor, (65) 345
  severe, consequent on pelvic disease, (142) 63
Melancholia, treatment of, (14) 1061
Meniere's disease, (29) 598
Meningitis, (78) 62, (109) 1633
  epidemic, (17) 1558
  epidemic cerebrospinal, in infants, (118) 1206, (76) 1345, (80) 1489
  intracellular occurrence of, diplococcus pneumoniæ in, *1675
  otogenous, (65) 1345
  septic, case resembling, (114) 406
  treated with unguentum Credé, (82) 1001, (175) 1275
  tubular, (153) 938
Meningo-myelitis, chronic, in cocker spaniels, (69) 1559
Menopause, the, (73) 218
Menorrhagia, etiology and treatment of, (164) 347
  and metrorrhagia, etiology and treatment of, (178) 142
Menstruation, age of first, in United States, (121) 1001, (67) 1274
  factors modifying, (132) 63
  painful, as factor in determining character of operations on uterine appendages, (67) 406
  status of, (66) 406
Mental depression and malignant disease, (17) 1345
  disease, dispensary treatment of, (99) 718
  diseases of childhood, (14) 140
  disturbances in cardiac disease, (20) 405
  enfeeblement, (61) 1205
  impressions as factor in treatment of disease, (66) 218
  medicine, past and present, (68) 218
  therapeutics, (105) 1001
  therapeutics in nervous and mental diseases, (69) 598
  weakness of women, physiologic, (111) 1419
Menthol in treatment of gastritis, (129) 863
Meralgia paresthetica, (50) 141
Mercury, (84) 1001
Mergler, Marie J., (101, 102) 1139
Mesentery, fibroma of, (14) 598
Metabolism in diabetic coma, (66) 1559
Meter angle, size of, (82) 938
Methylene blue, (75) 281, (91) 531
Metric system in prescription writing, (15) 1558
Metrorrhagia, etiology and treatment of, (164) 347
Michigan, medical registration in, (42) 1488
Microscope, the, (122) 218
Microscopic aids in diagnosis and treatment of pneumonia, (58) 62
Microscopy, bacteriology and chemistry in nineteenth century, (95) 282
  clinical, bacteriology and chemistry in surgical practice, (137) 599
Microtome, carbon-dioxid freezing, (117) 63
Middle ear, complications of, (153) 1419
  ear, membrana tympani and mastoid, uric acid inflammation of, *514
  ear, treatment of chronic purulent inflammation of, (53) 1559
  ear, tuberculosis of, (104) 469
Midwifery, notes on practice of, (57) 1488
Migraine, pathology and treatment of, (28) 1488
Milchzucker in der Säuglingsnährung, (163) 1275
Military surgeon, status of the, (85) 1274
Milk commission, report of work of, of New York, (6, 26, 29) 1205
  modification, deductions concerning, (10) 1558
  modification for infant feeding, importance of, (44) 862
  undiluted, in chronic gastro-enteritis of rachitic infants, (4) 861
Mind, (156) 863
Mineral springs of California, necessity of dietetic management of, (102) 1001
Mirror-writing and inverted image, *1380
Miscarriage and abortion, management of, (94) 1632
  treatment of, (59) 531
Mississippi river water, bacteriologic report on, (135) 1139
Mitral insufficiency, pregnancy complicated by, (20) 281
Mobile uteri, treatment of retroflexions of, (84) 718
Model, demonstration of, of abdominal viscera, (58) 406
Mola hydatidosa totalis, case of, (123) 346
Mongolism, case of, (44) 141
Morbus caeruleus, case resembling, (97) 531
Morphin habit as nervous disease, (98) 63
  sickness, method of controlling, (125) 406
Morphinism, suggestions for lessening the frequency of relapses after treatment of, *1292
Mosq[illegible] factor in [illegible] fever, [illegible] 405
  the, (48) 1274, (122) 1419, (73) 1559
Mosquitoes and their relation to disease, (177) 863
  in malaria, (127) 1001
  of New Orleans, habits of, (178) 863
Motor insufficiency of stomach, (50) 659
Mountain fever, (119) 1700
Mouth and nasal cavities, prevention of infection through, (20) 141
  breathing on dental arch, influence of, (7) 281
  examination of, in infancy (12) 1345
Movable kidney, corset for, (67) 345
Movements, localization of, (76) 1559
Mucous patches, non-syphilitic, of throat, (63) 1000
  polyp, the, (110) 1700
  surfaces, diseased, ointment for, (161) 346, (79) 531
Mules' operation, *1369
Municipal control of dependent classes, (132) 1419
Murmurs, endocardial and exocardial, (70) 218
Mushroom poisoning, experience with, (41) 1559
Music, therapeutic benefit of, (115) 599
Mutes, education of, by aural exercises, (74) 1001
Myasthenia gravis, (77) 1001
Mycosis, case of, (156) 1140
  of tonsil and base of tongue, (20) 1727
Myelitis, acute transverse, case of, (37) 862
Myeloma of spine, with compression of cord, (1) 1061
Myocardium, role of, in pericarditis, *1577
Myomata, uterine, how shall we deal with, *196
Myomectomies for fibroids during child-bearing period, (27) 658
Myomectomy of nine myomas, (78) 141, (149) 470
  pregnancy following, (11) 598
Myometrium, the, (87) 218, (75) 659
Myopia, high, remarks on surgical treatment of, (149) 1206
Myosis and ptosis from paralysis of cervical sympathetic by gunshot wound, (101) 346
Myositis, gonorrheal, (92) 141
Myriapods, pretended expectoration of, (32) 1558
Myxedema, case of, (118) 346
Myxochondro-endothelioma cylindrimatodes, (114) 1700

Nails, treatment of diseases of, (57) 1418
Narcosis, medullary, (124) 863
  medullary, lipoma removed from cheek under, (12) 217
  nitrous oxid and ether, results of, (5) 1418
Narcotic drug habits, (157) 1275
Narcotics and hypnotics, use and abuse of, (128) 938
  in pediatrics, (99) 1559
Nasal bones, correction of displacements of, (19) 1488
  catarrh, home treatment of, (126) 1560
  cavities, asymmetry of, (75) 1418

- Nasal cavities, spraying and insufflating the, *113
  - deformities, etiology of, (65) 1000
  - deformity from medial furrow, (27) 405
  - diseases, chronic, relation of middle turbinate body to, *189
  - obstruction, relation of, and obscure cases of asthma, (67) 717
  - septum, acute edema of, *192
  - septum, serous extravasation cysts of both sides of, (120) 1062
  - sprays, use and abuse of, (166) 1206
- Nasopharynx in scarlatina, treatment of, (50) 598
  - primary carcinoma of, *371
- National Jewish Hospital for Consumptives, cases examined for, (33) 405
  - medical bureau, institution of, (107) 1206
- Nauheim treatment, (10) 62
- Nausea incident to chloroform anesthesia, method of controlling, (125) 406
- Nebraska's medical pioneers, (103) 1274, (101) 1632
- Neck, traumatic emphysema of, (66) 1205
  - tuberculosis of glands of, surgical treatment of, (59) 1062
- Necrosis, extensive, of inferior maxilla, (188) 142
  - of cranial bones, (157) 63
  - of ileum, (108) 531
- Necroses of liver, (117) 863
- Needle for silver wire, (22) 62
  - holder, Knox improved Monk's, (157) 470
- Negro, the future of the, (7) 795
  - cardiac lesion in, with reference to pericarditis, *1581
- Neoplasms complicating pregnancy and labor, (62) 1418
  - intracranial, (4) 1488
  - malignant, infectious theory of, (62) 1488
  - malignant, of stomach, indications for operation in, (10) 795
  - *multiple primary*, (34) 1273
- Neotherapeutics, pantherapist and, (27) 937
- Nephrectomy, (100) 531
  - first, and first cholecystotomy, (160) 863
  - for mononephrous hemorrhage, (24) 1699
  - for removal of calculus of ureter, (106) 1139
- Nephritides, chronic, (120) 1700
- Nephritis, acute, (97) 1489
  - acute, symptomatology in, (52) 141
  - case of, (162) 938
  - calculous, and urethritis, indications for operation in, *1451
  - chronic, anatomy of, (95) 1489
  - chronic, fatal cases of, (9[illegible]) 1489
  - chronic interstitial, (161) 63, (45) 717
  - interstitial, cardiovascular system in, (30) 1727
  - malarial, case of, (69) 1139
  - microscopic examination of urine in, (94) 1489
- Nephrolithiasis, (40) 1138, (57) 1700
  - renal hematuria and, (122) 1700
- Nephropexy, (36) 217
  - new principle in, (29) 1699
- Nephrorrhaphy, present status of, (110) 599
  - with flap fixation, (11) 62
  - wound, advantages of closing with aseptic adhesive strips, (33) 1273
- Nephrotomy with drainage, (35) 1727
- Nephro-ureterectomy, technique of, (47) 218
- Nerve cells, new formation of, in cerebral tumor-neuroglioma, (100) 862
  - reflexes due to abdominal and pelvic pathology, (145) 1063
- Nervous and mental disease, limitations of surgery in, (38) 141, (157) 346
  - and urinary manifestations following la grippe in aged, (7) 658
  - children, (130) 1700
- Nervous complications in acute diseases, (161) 938
  - diseases in children, (58) 1488
  - diseases, fear as element of, *1526
  - diseases, functional, care and treatment in convalescence from, (104) 1139
  - system, circulation in, (120) 1001, (151) 1419
  - system, importance of more general study of diseases of, (12) 468
  - system, proper method of teaching anatomy of, (9) 1061
  - system, syphilis of, *1105, (57) 1205
- Neuralgia of rectum, (36) 1632
  - intercostal, operative treatment of, (23) 1727
  - phenalgin in, (51) 1000
  - treatment of trifacial, (33) 795
- Neurasthenia, (158) 470, (11) 717, (95) 1001, (106) 1274, (5) 1488
  - evils arising from failure to recognize, (28) 345
  - hydrotherapy in, (119) 1062
  - psychology of, (42) 1345, (100) 1489
  - severe, dependent on anemia, (72) 1001, (128) 1489
  - sexual, (36) 281
  - treatment of, *1656
- Neurasthenic spine, the, (3) 1631
- Neuritis, alcoholic multiple, with peculiar changes in Gasserian ganglion, (27) 1345
  - infectious multiple, cases of, *1529
  - prognosis in, (70) 1700
  - sciatic and brachial, (100) 1419
  - sciatic, due to uric acid diathesis, (118) 1346
- Neuroglia, studies on, (133) 1700
- Neuroglioma, (91) 1206
- Neurological lectures, (70) 1205
- Neuro-retinitis, double, complete recovery from, *1587
- Neuroses, masturbational, (37) 281
  - in orthopedic practice, (10) 281
  - rectal reflex, (123) 1489
  - traumatic, (15) 62, (39) 531, *1605
- Neurosis, reflex, from disturbed pelvic mechanism, (126) 1489
- Neurotherapeutics, pantherapist and, (154) 1701
- Nevus linearis, cause of streaks in, (98) 1139
  - pigmentosus, multiple, case of, *553
- New disease, a, (36) 1345
- Newfoundland sealing fleet, trip as surgeon with, (97) 1139
- New York Post-Graduate Medical School and Hospital, clinical demonstration at, (93) 531
  - State Association of Railway Surgeons, work done by, (165) 142
  - surgery, notes on, (79) 406
- Night blue, flagella staining with, (68) 1559
- Nitrate of silver in typhoid, (174) 142
- Nitrous oxid and ether narcosis, (85) 218, (5) 1418, (90) 1419
- Noma, epidemic of, (71) 1418
- Non-municipal hospital, advantage of, (76) 937
- Normal salt solution, (151) 63
  - salt solution by hypodermoclysis, (109) 1419
- North Carolina Medical Society, report of chairman of Section on Obstetrics, (183) 142
- Nose and ear, foreign bodies of, (10) 937
  - and throat, catarrhal diseases of, *243
  - and throat in general practice, (95) 1139
  - and throat work in history of medicine, (114) 469, (135) 938, (113) 1139, (80) 1345
  - and throat in their relation to diseases of chest, (116) 599
  - and throat, syphilis of, (53) 1205
  - and throat work for general practitioner, (156) 63, (97) 282, (106) 469, (150) 938, (90) 1346, (128) 1419
  - fibroma of, (84) 1418
  - maggots in, (148) 470
- Noses and ears, artificial, (16) 1418
- Nosologic study of manifestations of mania, (30) 598
- Notes from my practice, (75) 1205
- Nourishment by ordinary food, (122) 142
- Nuclei pontis, development of, (120) 63
- Nuclein bases and eosinophile leucocytes, (25) 862
- Nucleus dentatus of cerebellum, model of, (127) 63
- Nurse, the trained, (172) 1275
- Nurses, trained in obstetric cases, (43) 1274
- Nutrition and stimulation, (160) 346
  - diseases of, in infants, (30) 281, (59) 406

- *Obstetric* and gynecologic practice, nature in, (42) 281
  - cases, facts regarding, (87) 1139
  - cases, trained nurse in, (43) 1274
  - experiences, interesting, (21) 345, (63) 531
  - operations and cases in University Maternity, (75) 406
  - operations, major, (125) 1274
  - patients, our duty to, (70) 1001
  - practice, (103) 1632
  - practice, colpeurynter in, (77) 1488
  - practice, technique in, (119) 1206
- Obstetrics, (67) 531
  - address in, (17) 1205
  - anesthesia in, (60) 1205
  - early prophylaxis in, (50) 1559
  - gynecology and, progress of, (35) 1000
  - instrumental and operative, (62) 531, (44) 1139
  - practical, remarks on, (97) 599
  - practice of, *611, (32) 937
  - prophylaxis in, (91) 1062
  - selected topics in, (39) 1345
- Obstipation, (7) 62
- Obstruction, acute intestinal, (124) 1560
  - acute intestinal, following appendicitis, (54) 1488
  - intestinal, (88, 131) 1419
  - nasal, and ear disease, (31) 1488
  - prostatic, prostatectomy in, *1151
  - prostatic, to urination, (63) 1488
  - of bowel by enterolith, (56) 1274
- Obstructive diseases of lower bowel, (74) 1062
- Occipito-posterior positions, (1) 795, (34) 1061, (78) 1488
- Occlusion, congenital, of duodenum, (59) 62
- Occupation as affecting death-rate, (102) 406
- Octogenarian, paraphimosis in an, (33) 1727
- Ocular affections and systemic diseases, relationship between, (51) 937
  - affections in xeroderma pigmentosum, (49) 1062
  - affections of childhood, (16) 1205, (72) 1700
  - muscles, nasal condition affecting, (16) 405
- Oculist, when should he be consulted, (26) 1488
- Oil of cedar, poisoning with, (12) 1631
- Oils, lupus treated with, (138) 1001
- Old age, disease and, (89) 531
- Onychia, syphilitic, (167) 863
- Operate, who shall, (149) 938
- Operating case, compact, for railway surgeons, (150) 142
  - outfit, portable, (55) 406
- Operative surgery, modification of, (2) 1558
  - work, limitations of, (17) 598
- Ophthalmia neonatorum, (105) 469, (68) 659, (104) 1274, (61) 1700
- Ophthalmic science and art, present position of, (29) 1488
- Ophthalmology, general practitioner and, (136) 863
  - new findings in, (102) 141, (42) 345
  - report of proceedings of section on, A. M. A., (111) 346
  - section of, *977
- Ophthalmoplegia, hereditary binocular, (91) 599
- Ophthalmoplegia, remarks on diagnosis of, (82) 1418
- Ophthalmoscope, fiftieth anniversary of invention of, (159) 863
  - in medicine, (2) 61
  - new electric, (93) 1700
- Ophthalmoscopic diagnosis of Bright's disease, (97) 1062
- Opium and its alkaloid morphin, (126) 142, (91) 406
  - poisoning, case of, (95) 1274
  - some adjuvants and corrigents of, (140) 1001
- Oral indications of physical conditions, (94) 469
- Orbit, implanting of glass ball in, *978
- Organic evolution, physiologic theory of, (142) 1206
- Organotherapy, ovarian, (57) 406
- Orthodoxy, therapeutic, (93) 406
- Orthopedic surgery, notes in, (122) 1206
  - surgery, teaching of, in U. S., (106) 406
- Osmotic pressure and relation to uremic manifestations, *256
- Osseous malformations, modern aspects of congenital, *966
- Osteitis deformans, (125) 346, (74) 1418
- Osteo-arthritis of spine, cast of, (44) 717
- Osteoclasis for correction of deformities of legs, (67) 62
  - of elbow, (137) 1489
- Osteoma, multiple, (130) 1419
  - of orbital plate of frontal bone, (58) 1700
- Osteomyelitis, (39) 1274, (138) 1633
  - involving superior maxilla, (51) 218
  - of femur, (68) 1418
- Osteotomy, subtrochanteric, for deformity following hip disease, (17) 140
- Otitis, (70) 1418
  - media, acute, treatment of, (15) 1061
  - media, bacteriology of, (20) 1418, (22) 1488
  - media, bilateral, pyemia caused by, (69) 1345
  - media, chronic, complicated with mastoid cholesteatoma and cranial abscess, (104) 599
  - media following influenza, (29) 1418, (89) 1419
  - media mucosa, (30) 937
  - media purulenta, retropharyngeal abscesses after, (66) 1345
  - media, tuberculous, (13) 1138
- Otology, address in, (64) 1700
- Otomycosis, (113) 141
- Otorrhea, (136) 142, (143) 938
- Ounce of prevention, the, (43) 531
- Ova, progressive change in, in mammillian ovaries, (97) 862
- Ovarian plexus and its controlling influences, (43) 1727
  - surgery, results of, *357
  - symptoms and their value, (43) 598
- Ovaries and tubes, conservative surgery of, (52) 1345
  - conservation of, (62) 1062, (115) 1274
  - salpingostomy, resection and ignipuncture of, (103) 1559
- Ovary, anatomy and function of, and some of its diseases, (36) 937
  - prolapsed, simulating direct inguinal hernia, (46) 1274
  - studies of structures of, (53) 937, (120) 1206
- Ovariectomy complicated by aneurysm of aorta, (46) 218
- Oxalic acid, origin of, (8) 598
- Oxygen gas in diseases of chest, (55) 1345
- Oxphenylethylimin in pancreatic digestion, on, (65) 1559
- Ozone, inhalations of compound, in tuberculosis, (159) 1140, (130) 1633

- Pain, diagnostic value of, in intra-abdominal and pelvic diseases, (74) 598
  - relief of, (112) 63
- Palsy, complete unilateral oculomotor, (69) 141
- Pampiniform plexus, fatal hemorrhage from varix of, *199

Pancreas, annular, (16) 1558
  cystadenoma of, (8) 405
  in diabetes mellitus, histopathology of, (73) 1700
Pancreatitis, acute, and fat necrosis, (104) 1559
  hemorrhagic, (134) 63, (126) 1700
Panhysterokolpectomy, (16) 1138
Panophthalmitis, double, of septic origin, (5) 1000
  is it justifiable to enucleate during acute stage of, (117) 938
Pantherapist and acetherapeutics, (57) 141, (27) 937, (154) 1701
Papilloma of larynx, thuja occidentalis in removal of, *326
Papillomatous growths of soft palate, (138) 938
Parafin, subcutaneous injection of, (41) 937
Paraffins, use of solid and liquid, on culture media to insure anaerobic conditions, (119) 863
Parakeratosis variegata, case of, (63) 717
Paralyses, laryngeal, (15) 1726
  ocular extrinsic, *1374
Paralysis, abductor, with returning singing voice, (82) 1346
  and dystrophy of muscles, (76) 62
  facial, (145) 346
  facial, supraorbital reflex in, (24) 1558
  infantile and spastic, results of tendon grafting in, (40) 1205, (41) 1418
  multiple unilateral cranial nerve, (39) 1558
  ocular extrinsic, table of, *1366
  oculomotor and trifacial, (18) 281
  of bladder and rectum from injury, (128) 863
  progressive unilateral ascending, (92) 1206
  recurrent, with complete aphonia, (82) 1346
  rules for detection of paretic muscle in, (143) 1275
Paranephritis, chronic indurative, after chronic suppurative pyelitis, (99) 1346
Paraphasia, case of anomia and, (9) 1345
Paraphimosis in an octogenarian, (33) 1727
Paraplegia, ataxic, (83) 1062
Parasite, flagellated malarial, (28) 468
  tertian malarial, conjugation in a sexual cycle of, (18) 405
Parasites in blood, (116) 142
  malarial, structure of, (52) 717
Parasitic diseases of nails, (56) 1418
Paré, Ambrose, life and work of, (33) 1138, (35) 1205, (10) 1275
Paresis, modern views on, (180) 1275
Paretic dementia, etiology of, *832
Paris, visit to hospitals of, (59) 1274
Paroccipital, fissural integrality of, (108) 218
Parotid gland, suppuration of, with pus in external auditory canal, *450
Parotitis, double, (124) 1419
Parturient canal, can injuries to, be avoided during normal labor, (137) 1063
Pasteur, Louis, life and work of, (73) 659
Pathogenic microbe and destruction of rats, (102) 938
Pathologic work at city hospital, (116) 938
Pathology and bacteriology, address before Section on, *1431
Pectoralis major muscle in man, observations on, (130) 63
Pediatrics, surgical, advancement of, *155
Peking clinic, morning in, (148) 1140
Peliosis rheumatica, (30) 658. (29) 1138
Pelvic and abdominal surgery, odd cases in, (115) 1559
  and hepatic diseases in women, (119) 142, (124) 346
  floor, lacerations of, and their repair, (121) 863
  inflammation in female, (5) 1558
Pelvic injuries, (86) 1062, (66) 1418
  surgery, accidents and complications of, *25
  surgery, simple methods in, (135) 407
Pelvimetry, (138) 1063
Pelvis, female, inflammatory exudates in, (118) 531
  generally contracted, symphysiotomy on, (81) 1062
  vaginal section for pus in, (34) 1699
Pemphigus and erysipelas in infants, (37) 717
Penis, double, combined with exstrophy of bladder, (28) 937
  statistical digest of epithelioma of, (76) 406
Pennsylvania Brigade Hospital tent, (91) 1274
Pepper, William, memoir of, (73) 406, (65) 659
Peptomangan, Gude's, clinical report on, (130) 1489
  therapeutics of, (140) 1489
Perforation, pistol-shot, of intestines, (173) 863
Pericarditis, clinical observations in, *1503
  etiology of, *1510
  pathology and pathogenesis of, *1507
  role of myocardium in, *1577
  suppurative, diagnosis of, (38) 1418
  suppurative, following appendicitis, (134) 1206
  suppurative, observations on, (39) 1418
  treatment of, *1583
  tubercular, *1580
Pericardium, adherent, *1578
Periendothelioma of dura mater, involving cranial nerves, (91, 141
Perineorrhaphy, intrapelvic intravaginal, without loss of tissue, (43) 217
Perineum, chronic laceration of, (51) 1559
Periosteal elevator, a, (85) 141
Periosteum, growth of new bone from, (30) 1138
Periscopic lenses, (55) 1062
Peritoneal infections, elimination of, and prevention of surgical peritonitis, *360
  section, prevention of complications after, (147) 1001
Peritoneum, gelatinous disease of, (73) 345
  tuberculosis of, (91) 1559
Peritonitis, acute, (16) 598
  acute, diagnosis and treatment of, (44) 406, (79) 599
  acute, etiology of, (72) 218
  acute tubercular, with strangulation of appendix, (46) 141
  general, (37) 1205
  general septic, (129) 346
  pelvic, (128) 1001, (154) 1206
  pelvic, and exudates, (38) 405
  pseudomyxomatous, (73) 345
  surgical, prevention of, and elimination of peritoneal infection, *360
  tubercular, (52) 469, (46) 862, (33) 1205, (11) 1273, (59) 1700
  tubercular, congenital malformation leading to error in diagnosis of, (64) 1062
Perkins, Maurice, sketch of late, (69) 531
Pest, biology of the bacillus of, (99) 862
Petroleum compounds given medically, inertness of, (22) 658
Phalanges of hands and feet, rare variation in, (68) 717
Pharmacist, ideals of, (144) 1419
  tribulations of, (107) 141
  to physicians, relations of, (30) 345
Pharmacologic action of drugs. (120) 1139
Pharyngitis, follicular, so-called, (108) 1633
  membranous, types of, *186
Pharyngomycosis, (67) 1001
Pharynx, unusual foreign body in, (86) 1346
Phenalgin in neuralgia, (51) 1000
Phenomena which would prompt us to look for disease of kidney, (96) 1489
Philippine Islands from health standpoint, (125) 1346
Philippines, dysentery in, (4) 598
  sanitary work in, (3) 1205, (12) 1418
Phlebitis following abdominal operations, (27) 281
Phlegmon of pharynx and larynx, (100) 1559
Phospho-therapy and nerve-exhaustion, (159) 938
Photography in medicine, (163) 1701
Photo-mechanical reproduction, (19) 281; (22) 345
Phthisis, alcohol in, (60) 1345
  home treatment of, (52) 345
  secondary infection in, (28) 1345
  silver nitrate injections in, (29) 658
Physical culture in children, (72) 1139
  life and perversion of physical acts in relation to the same, (138) 1140
  development, unbalanced, relation of, to pubertal morbidity, *691
Physician and his status, (140) 142
  and pharmacist, (106) 599
  and the public, (141) 938
  as sanitarian, (180) 142
  as sociologic factor, (15) 1345
  in public affairs, influence of, (93) 346
  in relation to dispensing of medicine, (69) 1001, (17) 1273
  little things that should be observed by, (111) 938
Physicians and municipal affairs, (94) 1206
  and surgeons, legal duties of, (99) 346
  duties of, to each other, (112) 1346
  early, of Los Angeles, (137) 1700
  leading, (109) 1489
  successful, types of, (27) 1000
  to community, ethical and sociologic relations of, (96) 1206
Physiology and pathology, problems of, (8) 1000
  what constitutes good text-book in physiology, (51) 1274
Phytolacca decandra, therapy of, (121) 1346
Pig's intestine, development of, (115) 63
Piles, carbolic acid in treatment of, (36) 1699
Pilocarpin hydrochlorate in croup, (7) 217
  in inflammation of interior of eye, (48) 717
Pineal region, morphology of, (135) 1700
Pistol-shot wounds, (10) 1061
  shot wound in pregnant woman, (9) 1631
Placenta, adherent, (80) 1001
  previa, (34) 141, (134) 938, (92) 1062, (97) 1419, (85) 1489, (65) 1727
  previa, Cesarean section for, *495, (54) 1345
  previa, management of, (98) 282, (122) 346
  previa marginalis with infection of placenta before delivery, (37) 405
  retained, in primaparæ, (146) 1700
  retained, unusual case of, (83) 1727
Plague, bubonic, pathology and bacteriology of, (41) 717, (67, 68) 1139
  bubonic, was epidemic in Athens, B. C. 430, (20) 1061
  in Manila, (81) 599
  in New South Wales, synopsis of report of, (117) 346
  on clinical aspects of, (66) 1139
  reports, (86) 1205
Plagues of the world, historical sketch of, (81) 406, (148) 1701
Plaster-of-Paris jacket, (55) 62
Pleura, lungs and, diseases of, (44) 62
Pleural effusion, (98) 938
Pleurisy in children, (105) 599
  infantile, with effusion, (9) 1488
  tubercular, (see pneumonia)
Pneumatic splint, ambulatory, for fractures of femur, *1605
Pneumectomy, some experiments in, (72) 659
Pneumonia, (135) 469, (135) 1633
  abortive treatment of, *1240
Pneumonia, acute lobar, (165) 63, (28) 530, (26) 1418, (145) 1419
  apex, significance of, (105) 1062
  atypical, and tuberculosis, (18) 62
  carbonate of creosote in, (1) 1345
  creosote in, (71) 1727
  croupous, observations in treatment of, (24) 1345, (123) 1419
  croupous, typhoid complicated by, (79) 469
  hydriatic management of, (152) 1419
  in children, treatment of, (107) 1274
  lobar, insolation complicated by, (98) 1001
  lobar, with hyperpyrexia, (19) 217
  lobular, bacteriology of, (70) 531
  microscopic aids in diagnosis of, (58) 62
  observations on treatment of, (63) 1559
  pericarditis, and tubercular pleurisy, practical ideas on treatment of, (146) 1063
  potassium bicarbonate, (139) 1560
  protracted influenzal, in infancy, 560
  surgery of pulmonary abscess, gangrene and bronchiectases following, (26) 1558
  treated by antipneumococcus serum, (10) 1726
  treatment of, (53) 62. (168) 142, *1237, (77) 1727
  unusual sequela of, (127) 1700
  value of venesection followed by saline injection in, (96) 1001
  veratrum viride in, (84) 1559
  with effusion, (74) 281
Pneumothorax, (124) 1633
Pneumotomy for abscess of lung, (27) 345
Poisoning, chronic arsenical, in infant, (97) 938
Poliomyelitis, acute anterior, in adult, (56) 937
Polyneuritis, malarial, (120) 599
Polypi, aural, (72) 1345
  rectal, in children, (95) 938
Population, congestion of, as affecting death rate, (96) 218
Porro-Cesarean section, (108) 1001
  section for placenta previa centralis, (32) 217
Porto Rico, climate and diseases of, (24) 217
Position of woman during delivery, *613
Post-graduate instruction in sanitary science, need of, (55) 717
  study in London, (82) 62
Postmortem recollection, a, (108) 1062
Post-nasal discharge, chronic, (109) 346
Post-operative sequelæ and conservative gynecology, (37) 598
  treatment of rectum, (147) 63
Post-typhoid case, (15) 468
Potassium bicarbonate in pneumonia, (139) 1560
Pott's disease, (116) 1346
  disease, abscess in posterior mediastinum in connection with, (15) 1631
  disease in children treated by over-extension of spine, (62) 862
  disease of spine, rotary lateral curvature and, (98, 102) 1632
  disease, unusual case of, (91) 1419
Poverty and degeneracy, *1, (84) 862
Practice of medicine, address before section on, *78
  of medicine, does it pay, (44) 1418
  of medicine, how legally defined, (55) 469
  of medicine, qualifications for success in, (50) 1418
Practitioner, general, and ophthalmology, (136) 863
  general, and specialist, (88) 1559
Prairie doctor, sights and experiences of, (45) 406

Nasal cavities, spraying and insufflating the, *113
deformities, etiology of, (65) 1000
deformity from medial furrow, (27) 405
diseases, chronic, relation of middle turbinate body to, *189
obstruction, relation of, and obscure cases of asthma, (67) 717
septum, acute edema of, *192
septum, serous extravasation cysts of both sides of, (120) 1062
sprays, use and abuse of, (166) 1206
Nasopharynx in scarlatina, treatment of, (50) 598
primary carcinoma of, *371
National Jewish Hospital for Consumptives, cases examined for, (33) 405
medical bureau, institution of, (107) 1206
Nauheim treatment, (10) 62
Nausea incident to chloroform anesthesia, method of controlling, (125) 406
Nebraska's medical pioneers, (103) 1274, (101) 1632
Neck, *traumatic emphysema of,* (66) 1205
tuberculosis of glands of, surgical treatment of, (59) 1062
Necrosis, extensive, of inferior maxilla, (188) 142
of cranial bones, (157) 63
of ileum, (108) 531
Necroses of liver, (117) 863
Needle for silver wire, (22) 62
holder, Knox improved Monk's, (157) 470
Negro, the future of the, (7) 795
cardiac lesion in, with reference to pericarditis, *1581
Neoplasms complicating pregnancy and labor, (62) 1418
intracranial, (4) 1488
malignant, infectious theory of, (62) 1488
malignant, of stomach, indications for operation in, (10) 795
multiple primary, (34) 1273
Neotherapeutics, pantherapist and, (27) 937
Nephrectomy, (100) 531
first, and first cholecystotomy, (160) 863
for mononephrous hemorrhage, (24) 1699
for removal of calculus of ureter, (106) 1139
Nephritides, chronic, (120) 1700
Nephritis, acute, (97) 1489
acute, symptomatology in, (52) 141
case of, (162) 938
calculous, and urethritis, indications for operation in, *1451
chronic, anatomy of, (95) 1489
chronic, fatal cases of, (9[illegible]) 1489
chronic interstitial, (161) 63, (45) 717
interstitial, cardiovascular system in, (30) 1727
malarial, case of, (69) 1139
microscopic examination of urine in, (94) 1489
Nephrolithiasis, (40) 1138, (57) 1700
renal hematuria and, (122) 1700
Nephropexy, (36) 217
new principle in, (29) 1699
Nephrorrhaphy, present status of, (110) 599
with flap fixation, (11) 62
wound, advantages of closing with aseptic adhesive strips, (33) 1273
Nephrotomy with drainage, (35) 1727
Nephro-ureterectomy, technique of, (47) 218
Nerve cells, new formation of, in cerebral tumor-neuroglioma, (100) 862
reflexes due to abdominal and pelvic pathology, (145) 1063
Nervous and mental disease, limitations of surgery in, (38) 141, (157) 346
and urinary manifestations following la grippe in aged, (7) 658
children, (130) 1700
Nervous complications in acute diseases, (161) 938
diseases in children, (58) 1488
diseases, fear as element of, *1526
diseases, functional, care and treatment in convalescence from, (104) 1139
system, circulation in, (120) 1001, (151) 1419
system, importance of more general study of diseases of, (12) 468
system, *proper method of teaching anatomy of,* (9) 1061
system, syphilis of, *1105, (57) 1205
Neuralgia of rectum, (36) 1632
intercostal, *operative treatment of,* (23) 1727
phenalgin in, (51) 1000
treatment *of trifacial,* (33) 795
Neurasthenia, (158) 470, (11) 717, (95) 1001, (106) 1274, (5) 1488
evils arising from failure to recognize, (28) 345
hydrotherapy in, (119) 1062
psychology of, (42) 1345, (100) 1489
severe, dependent on anemia, (72) *1001,* (128) 1489
sexual, (36) 281
treatment of, *1656
Neurasthenic spine, the, (3) 1631
Neuritis, alcoholic multiple, with peculiar changes in Gasserian ganglion, (27) 1345
infectious multiple, cases of, *1529
prognosis in, (70) 1700
sciatic and brachial, (100) 1419
sciatic, due to uric acid diathesis, (118) 1346
Neuroglia, studies on, (133) 1700
Neuroglioma, (91) 1206
Neurological lectures, (70) 1205
Neuro-retinitis, double, complete recovery from, *1587
Neuroses, masturbational, (37) 281
in orthopedic practice, (10) 281
rectal reflex, (123) 1489
traumatic, (15) 62, (39) 531, *1605
Neurosis, reflex, from disturbed pelvic mechanism, (126) 1489
Neurotherapeutics, pantherapist and, (154) 1701
Nevus linearis, cause of streaks in, (98) 1139
pigmentosus, multiple, case of, *553
New disease, a, (36) 1345
Newfoundland sealing fleet, trip as surgeon with, (97) 1139
New [illegible] Medical [illegible] clinical [illegible] 531
State Association of Railway Surgeons, work done by, (165) 142
surgery, notes on, (79) 406
Night blue, flagella staining with, (68) 1559
Nitrate of silver in typhoid, (174) 142
Nitrous oxid and ether narcosis, (85) 218, (5) 1418, (90) 1419
Noma, epidemic of, (71) 1418
Non-municipal hospital, advantage of, (76) 937
Normal salt solution, (151) 63
salt solution by hypodermoclysis, (109) 1419
North Carolina Medical Society, report of chairman of Section on Obstetrics, (183) 142
Nose and ear, *foreign bodies of,* (10) 937
and throat, catarrhal diseases of, *243
and throat in general practice, (95) 1139
and throat work in history of medicine, (114) 469, (135) 938, (113) 1139, (80) 1345
and throat in their relation to diseases of chest, (116) 599
and throat, syphilis of, (53) 1205
and throat work for general practitioner, (156) 63, (97) 282, (106) 469, (150) 938, (90) 1346, (128) 1419
fibroma of, (84) 1418
maggots in, (148) 470
Noses and ears, artificial, (16) 1418
Nosologic study of manifestations of mania, (30) 598
Notes from my practice, (75) 1205
Nourishment by ordinary food, (122) 142
Nuclei pontis, development of, (120) 63
Nuclein bases and eosinophile leucocytes, (25) 862
Nucleus dentatus of cerebellum, model of, (127) 63
Nurse, the trained, (172) 1275
Nurses, trained in obstetric cases, (43) 1274
Nutrition and stimulation, (160) 346
diseases of, in infants, (30) 281, (59) 406

Obstetric and gynecologic practice, nature in, (42) 281
cases, facts regarding, (87) 1139
cases, trained nurse in, (43) 1274
experiences, interesting, (21) 345, (63) 531
operations and cases in University Maternity, (75) 406
operations, major, (125) 1274
patients, our duty to, (70) 1001
practice, (103) 1632
practice, colpeurynter in, (77) 1488
practice, technique in, (119) 1206
Obstetrics, (67) 531
address in, (17) 1205
anesthesia in, (60) 1205
early prophylaxis in, (50) 1559
gynecology and, progress of, (35) 1000
instrumental and operative, (62) 531, (44) 1139
practical, remarks on, (97) 599
practice of, *611, (32) 937
prophylaxis in, (91) 1062
selected topics in, (39) 1345
Obstipation, (7) 62
Obstruction, acute intestinal, (124) 1560
acute intestinal, following appendicitis, (54) 1488
intestinal, (88, 131) 1419
nasal, and ear disease, (31) 1488
prostatic, prostatectomy in, *1151
prostatic, to urination, (63) 1488
of bowel by enterolith, (56) 1274
Obstructive diseases of lower bowel, (74) 1062
Occipito-posterior positions, (1) 795, (34) 1061, (78) 1488
Occlusion, congenital, of duodenum, (59) 62
Occupation as affecting death-rate, (102) 406
Octogenarian, paraphimosis in an, (33) 1727
Ocular affections and systemic diseases, relationship between, (51) 937
affections in xeroderma pigmentosum, (49) 1062
affections of childhood, (16) 1205, *(72)* 1700
muscles, nasal condition affecting, (16) 405
Oculist, *when should he be consulted,* (26) 1488
Oil of cedar, poisoning with, (12) 1631
Oils, lupus treated with, (138) 1001
Old age, disease and, (89) 531
Onychia, syphilitic, (167) 863
Operate, who shall, (149) 938
Operating case, compact, for railway surgeons, (150) 142
outfit, portable, (55) 406
Operative surgery, modification of, (2) 1558
work, limitations of, (17) 598
Ophthalmia neonatorum, (105) 469, (68) 659, (104) 1274, (61) 1700
Ophthalmic science and art, present position of, (29) 1488
Ophthalmology, general practitioner and, (136) 863
new findings in, (102) 141, (42) 345
report of proceedings of section on, A. M. A., (111) 346
section of, *977
Ophthalmoplegia, hereditary binocular, (91) 599
Ophthalmoplegia, remarks on diagnosis of, (82) 1418
Ophthalmoscope, fiftieth anniversary of invention of, (159) 863
in medicine, (2) 61
new electric, (93) 1700
Ophthalmoscopic diagnosis of Bright's disease, (97) 1062
Opium and its alkaloid morphin, (126) 142, (91) 406
poisoning, case of, (95) 1274
some adjuvants and corrigents of, (140) 1001
Oral indications of physical conditions, (94) 469
Orbit, implanting of glass ball in, *978
Organic evolution, physiologic theory of, (142) 1206
Organotherapy, ovarian, (57) *406*
Orthodoxy, therapeutic, (93) 406
Orthopedic surgery, notes in, (122) 1206
surgery, teaching of, in U. S., (106) 406
Osmotic pressure and relation to uremic manifestations, *256
Osseous *malformations, modern aspects of congenital,* *966
Osteitis deformans, (125) 346, (74) 1418
Osteo-arthritis of spine, cast of, (44) 717
Osteoclasis for correction of deformities of legs, (67) 62
of elbow, (137) 1489
Osteoma, multiple, (130) 1419
of orbital plate of frontal bone, (58) 1700
Osteomyelitis, (39) 1274, (138) 1633
involving superior maxilla, (51) 218
of femur, (68) 1418
Osteotomy, subtrochanteric, for deformity following hip disease, (17) 140
Otitis, (70) 1418
media, acute, treatment of, (15) 1061
media, bacteriology of, (20) 1418, (22) 1488
media, bilateral, pyemia caused by, (69) 1345
media, chronic, complicated with mastoid cholesteatoma and cranial abscess, (104) 599
media following influenza, (29) 1418, (89) 1419
media mucosa, (30) 937
media purulenta, retropharyngeal abscesses after, (66) 1345
media, tuberculous, (13) 1138
Otology, address in, (64) 1700
Otomycosis, (113) 141
Otorrhea, (136) 142, (143) 938
Ounce of prevention, the, (43) 531
Ova, progressive change in, in mammillian ovaries, (97) 862
Ovarian plexus and its controlling influences, (43) 1727
surgery, results of, *357
symptoms and their value, (43) 598
Ovaries and tubes, conservative surgery of, (52) 1345
conservation *of, (62) 1062,* (115) 1274
salpingostomy, resection and ignipuncture of, (103) 1559
Ovary, anatomy and function of, and some of its diseases, (36) 937
prolapsed, simulating direct inguinal hernia, (46) 1274
studies of structures of, (53) 937, (120) 1206
Ovariectomy *complicated by aneurysm of aorta,* (46) 218
Oxalic acid, origin of, (8) 598
Oxygen gas in diseases of chest, (55) 1345
Oxphenylethylimin in pancreatic digestion, on, (65) 1559
Ozone, inhalations of compound, in tuberculosis, (159) 1140, (130) 1633

Pain, diagnostic value of, in intra-abdominal and pelvic diseases, (74) 598
relief of, (112) 63
Palsy, complete unilateral oculomotor, (69) 141
Pampiniform plexus, fatal hemorrhage from varix of, *199

Pancreas, annular, (16) 1558
  cystadenoma of, (8) 405
  in diabetes mellitus, histopathology of, (73) 1700
Pancreatitis, acute, and fat necrosis, (104) 1559
  hemorrhagic, (134) 63, (126) 1700
Panhysterokolpectomy, (16) 1138
Panophthalmitis, double, of septic origin, (5) 1000
  is it justifiable to enucleate during acute stage of, (117) 938
Pantherapist and aestherapeutics, (57) 141, (27) 937, (154) 1701
Papilloma of larynx, thuja occidentalis in removal of, *326
Papillomatous growths of soft palate, (138) 938
Paraffin, subcutaneous injection of, (41) 937
Paraffins, use of solid and liquid, on culture media to insure anaerobic conditions, (119) 863
Parakeratosis variegata, case of, (63) 717
Paralyses, laryngeal, (15) 1726
  ocular extrinsic, *1374
Paralysis, abductor, with returning singing voice, (82) 1346
  and dystrophy of muscles, (76) 62
  facial, (145) 346
  facial, supraorbital reflex in, (24) 1558
  infantile and spastic, results of tendon grafting in, (40) 1205, (41) 1418
  multiple unilateral cranial nerve, (39) 1558
  ocular extrinsic, table of, *1366
  oculomotor and trifacial, (18) 281
  of bladder and rectum from injury, (128) 863
  progressive unilateral ascending, (92) 1206
  recurrent, with complete aphonia, (82) 1346
  rules for detection of paretic muscle in, (143) 1275
Paranephritis, chronic indurative, after chronic suppurative pyelitis, (99) 1346
Paraphasia, case of anomia and, (9) 1345
Paraphimosis in an octogenarian, (33) 1727
Paraplegia, ataxic, (83) 1062
Parasite, flagellated malarial, (28) 468
  tertian malarial, conjugation in a sexual cycle of, (18) 405
Parasites in blood, (116) 142
  malarial, structure of, (52) 717
Parasitic diseases of nails, (56) 1418
Paré, Ambrose, life and work of, (33) 1138, (35) 1205, (10) 1275
Paresis, modern views on, (180) 1275
Paretic dementia, etiology of, *832
Paris, visit to hospitals of, (59) 1274
Paroccipital, fissural integrality of, (108) 218
Parotid gland, suppuration of, with pus in external auditory canal, *450
Parotitis, double, (124) 1419
Parturient canal, can injuries to, be avoided during normal labor, (137) 1063
Pasteur, Louis, life and work of, (73) 659
Pathogenic microbe and destruction of rats, (102) 938
Pathologic work at city hospital, (116) 938
Pathology and bacteriology, address before Section on, *1431
Pectoralis major muscle in man, observations on, (130) 63
Pediatrics, surgical, advancement of, *155
Peking clinic, morning in, (148) 1140
Peliosis rheumatica, (30) 658. (29) 1138
Pelvic and abdominal surgery, odd cases in, (115) 1559
  and hepatic diseases in women, (119) 142, (124) 346
  floor, lacerations of, and their repair, (121) 863
  inflammation in female, (5) 1558
Pelvic injuries, (86) 1062, (66) 1418
  surgery, accidents and complications of, *25
  surgery, simple methods in, (135) 407
Pelvimetry, (138) 1063
Pelvis, female, inflammatory exudates in, (118) 531
  generally contracted, symphysiotomy on, (81) 1062
  vaginal section for pus in, (34) 1699
Pemphigus and erysipelas in infants, (37) 717
Penis, double, combined with exstrophy of bladder, (28) 937
  statistical digest of epithelioma of, (76) 406
Pennsylvania Brigade Hospital tent, (91) 1274
Pepper, William, memoir of, (73) 406, (65) 659
Peptomangan, Gude's, clinical report on, (130) 1489
  therapeutics of, (140) 1489
Perforation, pistol-shot, of intestines, (173) 863
Pericarditis, clinical observations in, *1503
  etiology of, *1510
  pathology and pathogenesis of, *1507
  role of myocardium in, *1577
  suppurative, diagnosis of, (38) 1418
  suppurative, following appendicitis, (134) 1206
  suppurative, observations on, (39) 1418
  treatment of, *1583
  tubercular, *1580
Pericardium, adherent, *1578
Periendothelioma of dura mater, involving cranial nerves, (91, 141
Perineorrhaphy, intrapelvic intravaginal, without loss of tissue, (43) 217
Perineum, chronic laceration of, (51) 1559
Periosteal elevator, a, (85) 141
Periosteum, growth of new bone from, (30) 1138
Periscopic lenses, (55) 1062
Peritoneal infections, elimination of, and prevention of surgical peritonitis, *360
  section, prevention of complications after, (147) 1001
Peritoneum, gelatinous disease of, (73) 345
  tuberculosis of, (91) 1559
Peritonitis, acute, (16) 598
  acute, diagnosis and treatment of, (44) 406, (79) 599
  acute, etiology of, (72) 218
  acute tubercular, with strangulation of appendix, (46) 141
  general, (37) 1205
  general septic, (129) 346
  pelvic, (128) 1001, (154) 1206
  pelvic, and exudates, (38) 405
  pseudomyxomatous, (73) 345
  surgical, prevention of, and elimination of peritoneal infection, *360
  tubercular, (52) 469, (46) 862, (33) 1205, (11) 1273, (59) 1700
  tubercular, congenital malformation leading to error in diagnosis of, (64) 1062
Perkins, Maurice, sketch of late, (69) 531
Pest, biology of the bacillus of, (99) 862
Petroleum compounds given medically, inertness of, (22) 658
Phalanges of hands and feet, rare variation in, (68) 717
Pharmacist, ideals of, (144) 1419
  tribulations of, (107) 141
  to physicians, relations of, (30) 345
Pharmacologic action of drugs, (120) 1139
Pharyngitis, follicular, so-called, (108) 1633
  membranous, types of, *186
Pharyngomycosis, (67) 1001
Pharynx, unusual foreign body in, (86) 1346
Phenalgin in neuralgia, (51) 1000
Phenomena which would prompt us to look for disease of kidney, (96) 1489
Philippine Islands from health standpoint, (125) 1346
Philippines, dysentery in, (4) 598
  sanitary work in, (3) 1205, (12) 1418
Phlebitis following abdominal operations, (27) 281
Phlegmon of pharynx and larynx, (100) 1559
Phospho-therapy and nerve-exhaustion, (159) 938
Photography in medicine, (163) 1701
Photo-mechanical reproduction, (19) 281, (22) 345
Phthisis, alcohol in, (60) 1345
  home treatment of, (52) 345
  secondary infection in, (28) 1345
  silver nitrate injections in, (29) 658
Physical culture in children, (72) 1139
  life and perversion of physical acts in relation to the same, (138) 1140
  development, unbalanced, relation of, to pubertal morbidity, *691
Physician and his status, (140) 142
  and pharmacist, (106) 599
  and the public, (141) 938
  as sanitarian, (180) 142
  as sociologic factor, (15) 1345
  in public affairs, influence of, (93) 346
  in relation to dispensing of medicine, (69) 1001, (17) 1273
  little things that should be observed by, (111) 938
Physicians and municipal affairs, (94) 1206
  and surgeons, legal duties of, (99) 346
  duties of, to each other, (112) 1346
  early, of Los Angeles, (137) 1700
  leading, (109) 1489
  successful, types of, (27) 1000
  to community, ethical and sociologic relations of, (96) 1206
Physiology and pathology, problems of, (8) 1000
  what constitutes good text-book in physiology, (51) 1274
Phytolacca decandra, therapy of, (121) 1346
Pig's intestine, development of, (115) 63
Piles, carbolic acid in treatment of, (36) 1699
Pilocarpin hydrochlorate in croup, (7) 217
  in inflammation of interior of eye, (48) 717
Pineal region, morphology of, (135) 1700
Pistol-shot wounds, (10) 1061
  shot wound in pregnant woman, (9) 1631
Placenta, adherent, (80) 1001
  previa, (34) 141, (134) 938, (92) 1062, (97) 1419, (85) 1489, (65) 1727
  previa, Cesarean section for, *495, (54) 1345
  previa, management of, (98) 282, (122) 346
  previa marginalis with infection of placenta before delivery, (37) 405
  retained, in primaparæ, (146) 1700
  retained, unusual case of, (83) 1727
Plague, bubonic, pathology and bacteriology of, (41) 717, (67, 68) 1139
  bubonic, was epidemic in Athens, B. C. 430, (20) 1061
  in Manila, (81) 599
  in New South Wales, synopsis of report of, (117) 346
  on clinical aspects of, (66) 1139
  reports, (86) 1205
Plagues of the world, historical sketch of, (81) 406, (148) 1701
Plaster-of-Paris jacket, (55) 62
Pleura, lungs and, diseases of, (44) 62
Pleural effusion, (98) 938
Pleurisy in children, (105) 599
  infantile, with effusion, (9) 1488
  tubercular, (see pneumonia)
Pneumatic splint, ambulatory, for fractures of femur, *1605
Pneumectomy, some experiments in, (72) 659
Pneumonia, (135) 469, (135) 1633
  abortive treatment of, *1240
Pneumonia, acute lobar, (165) 63, (28) 530, (26) 1418, (145) 1419
  apex, significance of, (105) 1062
  atypical, and tuberculosis, (18) 62
  carbonate of creosote in, (1) 1345
  creosote in, (71) 1727
  croupous, observations in treatment of, (24) 1345, (123) 1419
  croupous, typhoid complicated by, (79) 469
  hydriatic management of, (152) 1419
  in children, treatment of, (107) 1274
  lobar, insolation complicated by, (98) 1001
  lobar, with hyperpyrexia, (19) 217
  lobular, bacteriology of, (70) 531
  microscopic aids in diagnosis of, (58) 62
  observations on treatment of, (63) 1559
  pericarditis, and tubercular pleurisy, practical ideas on treatment of, (146) 1063
  potassium bicarbonate, (139) 1560
  protracted influenzal, in infancy, 560
  surgery of pulmonary abscess, gangrene and bronchiectases following, (26) 1558
  treated by antipneumococcus serum, (10) 1726
  treatment of, (53) 62, (168) 142, *1237, (77) 1727
  unusual sequela of, (127) 1700
  value of venesection followed by saline injection in, (96) 1001
  veratrum viride in, (84) 1559
  with effusion, (74) 281
Pneumothorax, (124) 1633
Pneumotomy for abscess of lung, (27) 345
Poisoning, chronic arsenical, in infant, (97) 938
Poliomyelitis, acute anterior, in adult, (56) 937
Polyneuritis, malarial, (120) 599
Polypi, aural, (72) 1345
  rectal, in children, (95) 938
Population, congestion of, as affecting death rate, (96) 218
Porro-Cesarean section, (108) 1001
  section for placenta previa centralis, (32) 217
Porto Rico, climate and diseases of, (24) 217
Position of woman during delivery, *613
Post-graduate instruction in sanitary science, need of, (55) 717
  study in London, (82) 62
Postmortem recollection, a, (108) 1062
Post-nasal discharge, chronic, (109) 346
Post-operative sequelæ and conservative gynecology, (37) 598
  treatment of rectum, (147) 63
Post-typhoid case, (15) 468
Potassium bicarbonate in pneumonia, (139) 1560
Pott's disease, (116) 1346
  disease, abscess in posterior mediastinum in connection with, (15) 1631
  disease in children treated by over-extension of spine, (62) 862
  disease of spine, rotary lateral curvature and, (98, 102) 1632
  disease, unusual case of, (91) 1419
Poverty and degeneracy, *1, (84) 862
Practice of medicine, address before section on, *78
  of medicine, does it pay, (44) 1418
  of medicine, how legally defined, (55) 469
  of medicine, qualifications for success in, (50) 1418
Practitioner, general, and ophthalmology, (136) 863
  general, and specialist, (88) 1559
Prairie doctor, sights and experiences of, (45) 406

Pregnancies following ventral fixations, (71) 345
Pregnancy and lactation, food and drugs during, (50) 1727
  and tuberculosis, (95) 63
  at age of eleven, (106) 1062
  case of abdominal, (123) 599
  complicated by mitral insufficiency, (20) 281
  complicated, surgical interference in, (122) 1346
  cornual, (118) 1559
  diseases complicating, (85) 281
  ectopic, (131) 142
  ectopic, early symptoms of, (110) 346
  ectopic, with case of ovarian pregnancy, *548
  excessive vomiting of, (74) 1274
  extrauterine, (188) 142, (23) 281, (33) 658, (141) 1419, (49) 1559
  extrauterine, abdominal, (21) 1205
  extrauterine, early stage of, (10) 405
  extrauterine, treated by vaginal route, (89) 1206
  fibroids and, (51) 1345
  following myomectomy, (11) 598
  interstitial, (27) 1699
  kidneys, during, (124) 1700
  neoplasms complicating, (62) 1418
  ovarian, (96) 1346, (14) 1558
  prolonged, (76) 1274
  repeated, in same tube, (71) 1274
  requiring operation, (33) 658
  toxemia of, (42) 1062
  tubal, *581, (120) 1559
  tubal, operations for, (40) 1488
  tubo-abdominal, (119) 1559
Pregnant and puerperal patient, management of, (83) 1418
Prenatal, influence for mother's benefit, (74) 1727
Presbyopia, (10) 1000
Prescription, physician's, and common-law rights, (9) 345
President McKinley, the case of, (24) 937, (7, 18, 25, 27) 1205, (8) 1273, (107) 1346
  McKinley, official report of case of, *1029, (38) 1273
  McKinley, report of medical staff attending, (5) 1205
  McKinley, sanatoria in honor, of, (112) 1633
Preventable disease in army of U. S., *1110, (38) 1205
Prevention of crime, legislation and its limitations in, (128) 1633
  of disease, (111) 1633
Preventive medicine, (71) 717
Profession, better organization of, in Kentucky, (41) 1000
  organization of, (120) 863
Professional practice and morals in relation to life, (80) 469
Prolapse and procidentia of uterus, (68) 406
  complete uterine, (61) 1488
  of rectum, abdominal colopexy for, (69) 62
  rectal, (69) 1727
  rectal, sigmoidopexy for, (164) 1275
  of uterus, operation for, (68) 62
Prolapsus of anus and rectum, (86) 531
  operation, new, (16) 1138
Prolonged fever, (50) 406
Pronated foot, the, (179) 142
Prophylaxis in obstetrics, (91) 1062
Proprietary medicines, legitimate, (75) 717
Prostate gland, hypertrophied, treatment of, (101) 63, (73) 281, (123) 282, (2) 1273
  surgery of, (1) 598
Prostatectomy, (66) 1727
  in prostatic obstruction, *1151
  perineal, *1154, (90, 91) 1632
  vs. prostatotomy, *1156
Prostatic diseases, certain, importance of exact diagnosis in, (52) 1418, (131) 1489
Prostatotomy vs. prostatectomy, *1156
Protargol in acute gonorrhea, (46) 1727
Proteids in percentage milk mixtures, method of differential modification of, (71) 1139
Protonuclein, therapy of, (74) 659
Protozoal life, (2) 717
Protyle as basis of elemental individuality, (43) 281
Pruritus ani, plastic operation for, (146) 346
Pseudo-hermaphrodism, case of, (92) 1139
Pseudo-tabes, peripheral, (54) 659
Psoriasis, lupus vulgaris and, (90) 938
Psychiatry, not a case in, (14) 1205
Psychic half, the, (16) 1699
Psychomotor hallucinations in general paralysis, (105) 218
Psychoneurosis, (85) 599
Psychopathic cults of healing and worship, (55) 717
Psychoses in cerebral syphilis, *1102
  treatment of acute, *1374
Psychotherapeutics, (58) 141
Pubertal morbidity, unbalanced physical development and, *691
Ptosis of liver, (143) 863
  visceral, new factor in etiology of, (21) 937
Public health, the, (155) 1206
  hygiene, (145) 63
Puerperal infection, (129) 407, (21) 795, (79) 1062
  infection from surgical standpoint, (100) 141
  state, management of, (120) 1489
Puerperalfieber, (86½) 1559
Puerperium, how to manage case through, (147) 142
  the, (61) 531, (41) 1138
Pulmonary invalid in Colorado, facts pertaining to, (110) 1633
Pulp, literature of, *86
Pulse, slow, with reference to Stokes-Adams disease, (28) 658, (23) 717, (26) 598
  the, (82) 659
Pupil in health and disease, (47) 345, (23) *1000*
Purpura hemorrhagica, (73) 531, (12) 717
  hemorrhagica following acute lobar pneumonia, (22) 1205
Pus, eosinophiles as constituents of, (23) 937
  in abdominal operations, (38) 598
  spermine crystals in, (25) 1000
Pustule, malignant, (70) 598, (30) 717
  of lip, malignant, (122) 599
Pyelitis, gonorrheal, (51) 345
  study of, (24, 53) 717
Pyelonephritis in women, (24, 53) 717
Pyemia, aural, with dermatomyositis, (91) 938
  caused by bilateral otitis media, (69) 1345
  suggesting bubonic plague, outbreak of, (111) 599
Pyelophlebitis, suppurative, (103) 862
Pyothorax, hemorrhage from, (121) 282
Pyopericarditis, (16) 1488

Quackery, (57) 717, (161) 1206, (124) 1274
  dangers of, (23) 1632
Quarantine and fumigation, efficiency of, in yellow fever, (27) 1061
  and sanitation, (131) 599
  concerning international system of, (16) 1727
  what can we do to mitigate horrors of quarantine to laity, (41) 1062
Quinin eosolate in malaria, action of, (95) 469
  how to use, *in malarial disease*, (34) 1632
  hypodermically, (108) 282, (81) 1727
  in malarial disease, (30) 1699

Rabelais as a physiologist, (10) 140
Rabies, (14) 217, (75) 281
  is it a specific disease?, (33) 1558
Race degeneracy and dental irregularities, (116) 282
  progress, (101) 1001
Radiography, personal experience in, (14) 795
Railway surgery, (164) 142, (38) 1632
Railway surgeon, profession obligation of, (38) 1488
Raupenhaar-Entzündung, (86) 1559
Raynaud's disease, (17) 530, (45) 1062, (30) 1418
  disease, new points in regard to, (72) 1418
Recidivist criminal, prophylaxis and treatment of, (58) 1559
Reciprocity between state medical and licensing boards, (80) 62
Recruits, regulation for medical *examination* of, (56) 1727
Rectal alimentation and medication, (35) 1488
  disease, chronic diarrhea due to, (108) 1139
  disease, practical suggestions on treatment of, (129) 1419
  diseases, office treatment of, (96) 406, (153) 863
  diseases, treatment of, (154) 63, (148) 938
  feeding, (110) 1062
  obstruction, (63) 1418
  surgery, recent advances in, (90) 1139
Rectocolitis, (9) 1726
Rectum and anus, congenital malformation of, (86) 659
  and sigmoid flexure, inspection of, by mechanical means, (67) 1418
  foreign bodies in, (31) 345, (75) 862, (45) 1139
  improved method of treating high-seated cancers of, *801
  neuralgia of, (36) 1632
  prolapse of, (69) 1727
  ulcerations of, (150) 346
Reflex sensory and motor phenomena, study of, (76) 1001
Reflexes in their relation to life expectancy, (122) 1633
Refraction errors in their medical relation, (135) 1062
  of eye, determination of presumable, (47) 1062
Regicides, the, (59) 1559
Registration, medical, in Michigan, (42) 1488
Regurgitation, mitral, produced by resuscitation, (49) 937
Reigel murder case, (13) 281
Remarkable features, some, (13) 1205
Renal and ureteral surgery, new method of skiagraphic diagnosis for, *1228
  and ureteral surgery, present status of, *323
  disease, cardio-vascular changes of, (5) 530
  diseases, administration of anesthetics in, (116) 346
  functions and life insurance, (98) 1489
  insufficiency, (61) 1418
  stone and renal tuberculosis as cause for rejection from life insurance, (84) 659
  stones, *x*-ray in diagnosis of, (31) 1205
Resections and exsections, (3) 795
Resistance exercises in treatment of deformities of feet and ankles, (20) 1273
Respiratory conditions dependent on gout and obesity, (32) 1273
  failure, recurring, in newly-born, (79) 1205
  movements, co-ordination of, (15) 1205
  system in infancy, diseases of, (103) 1139
  tract, upper, and ear, diseases of, (48) 406
Rest and recreation, some experience in, by busy physician, (33) 598
Retained testicle, (139) 1700
Retina, atrophy of, *1446
  embolism of central artery of, (51) 1062
  glioma of, (65) 281
  glioma of, without sequelæ, (84) 938
  hemorrhage of, (89) 938
  newer pathology of, *1443
  thrombosis of central artery of, (50) 1062
Retinitis, albuminuric, (21) 281, (86) 938
  incipient, from *x*-rays, (8) 937
  syphilitic, (92) 599
Retrodeviations of womb, (111) 1559
Retrodisplacement of uterus, operation for, (75) 141, *424
Retroversioflexio uteri, origin of, (33) 1000
Retroversion of uterus, satisfactory operation for certain cases of, *913
  of uterus, surgical treatment of, *426
Revolver bullet wounds, (22, 1061
Rhachitis, (5) 1061
Rheumatic affections, (3) 1726
Rheumatism, (155) 470
  acute, (67) 218, (84) 406, (29) 1061
  and endocarditis, chorea in, (64) 937
  and rheumatic stimulants, (4) 1631
  and salicylates, (148) 1063
  and throat inflammation, (2) 1726
  cardiac complications of, (147) 1140
  chronic, cases of, (105) 1346
  gout and, (96) 1559
  manifestations, of, in children, (5) 795, (31) 862
  muscular, hyperchlorhydria and, *512
  treatment of, (134) 218, (83) 1559
  treated with acetyl-salicylic acid, (89) 406
Rheumatoid arthritis, pathologic lesions in, (16) 1631
Rhinitis, atrophic, (29) 717
  chorea with partial paralysis secondary to, (6) 1273
  hypertrophic, observations on, treatment of, (41) 862
  hypertrophic, treated with adrenalin chlorid solution, (144) 63
Rhinoliths, (63) 1700
Rhinological corner, the, (165) 1140
Rhinoplasty, case of, (37) 658
Rhinoscleroma, *1593
Ribs, cervical, (51) 1488
  cervical, notes on, (118) 63
Rickets, intra-uterine, (40) 1727
Ringworm, (11) 140, (39) 217
  and favus, (73) 1139
  of scalp, treatment of, *1389
Risks, limits of acceptability of, (121) 1633
Robert-Hawley goat lymph compound, (140) 599
Roentgen rays in diagnosis of biliary and urinary calculi, (70) 406
  rays in treatment of diseases of skin, *820
Round window, functional significance of, (62) 469
Rupture, circular, of iris, (89) 1489
  intraperitoneal, of bladder, treated by laparotomy and suture, (40) 658
  of uterus, (41) 1632
  operative preperitoneal, of bladder, (1) 1205
  spontaneous, of choroid and paretic mydriasis, (95) 599
  traumatic, of intestine, (11) 345

Saccharomyces cerevisiæ, (177) 1275
Sactosalpinx hemorrhagica, (41) 598
Saddle nose, operation for, (43) 659, (8) 717
St. Louis, tetanus in, (45) 1559
Salicylates, rheumatism and the, (148) 1063
Salicylic acid in trachoma, (132) 407
Salol, therapeutic indications for, (123) 469
Salpingitis, (96) 63
Salpingo-oöphorectomy for dysmenorrhea and neurasthenia, (35) 62
Salt injections, sub-conjunctival, in diseases of inner eye, (134) 469
  solution, sterile, injection of, in collapsed eyeballs, (91) 469
San Antonio, Texas, prevailing disease conditions in, (156) 1701
Sanatoria, *local, in tuberculosis*, (27) 217
  municipal, (4) 1726
Sanitaria, people's, contribution to question of, (124) 532
Sanitarium, why go to a, (40) 1345

Sanitary science, necessity of post-graduate instruction in, (108) 599
Sanitation, (87) 141
Sarcoma and sarcoid growths of skin, (54) 281
  choroidal, producing rupture of cornea, (86) 469
  excision of upper jaw for, (77) 659
  frequency of recurrence of, (58) 862
  nasal, case of, *377
  of breast, (117) 1559
  of jaw, (63) 1274
  of liver, primary, (31) 1558
  of uterus, (42) 862
  of wall of thorax, (46) 659
  primary, of thyroid gland, (76) 469
  primary retroperitoneal, *645
  ruptured, of testis, mistaken for strangulated hernia, (658
  treated by Roentgen rays, (13) 1488
Saturnine nephritis, (43) 468
Satyriasis, (155) 346
Scalp, treatment of ringworm of, *1389
Scarf-pin, case where, was swallowed and passed per rectum on seventh day, (104) 218
Scarlatina and measles, high temperature in, (94) 531
  treatment of, (141) 1063
  treatment of nasopharynx in, (50) 598
Scarlet fever, (133) 938, (131) 1560, (155) 1701
  fever and measles, prevention and sequelæ of, (173) 142
  fever, deafness from, (106) 1419
Schönlein's disease, (29) 1138
School girl, pubescent, (74) 141
  hygiene, some suggestions regarding department of, *970
  hygiene in reference to transmissible disease, (66) 598
  life, some considerations regarding hygiene of early, *1025
  medical inspection in Chicago, *1385
Schools, daily medical inspection of, (30) 1632, (28) 1699, (18) 1727
  medical inspection of, and prevention of spread of contagious diseases, (118) 938
Scientific evidence, fallibility of, in medical jurisprudence, (147) 1489
  research, *327, (2, 23) 468, (22) 530
Sclerosis, amyotrophic lateral, (12) 1699
  multiple, in child, (41) 468
Scolecitis, differential diagnosis of, (65) 1632
Scurvy, infantile, (4) 1061
  infantile, and marasmus, (68) 1488
  infantile, with recovery, (40 62
Sealing in North Atlantic, (128) 406
Segment, pelvic floor, of utero-ovarian artery, (32) 1727
Seidlitz salt in catarrh of stomach, (76) 281
Semen, biologic test for, *1721
Semilunar bone, forward dislocation of, (49) 659
Seminar method in medical teaching, *741
Senses, how the evolution of, expands the world, (127) 1139
Sensibility, muscular and cutaneous, (76) 1559
Sepsis, puerperal, (143) 346, (129) 532, (43) 717, (71) 937
  puerperal, prophylaxis and treatment of, *615
Septic infection, some dangers of, from remedies and methods in common use, (46) 281
  treatment, (91) 282
Septicemia, antistreptococcus serum in, (11) 1726
  blood washing in, (156) 142
  diagnostic value of blood examinations in, (112) 218
Septum, congenital longitudinal, of vagina forming a double vaginal orifice, (74) 346
  nasal, (79) 1345
  nasal, as found in skulls of mound-builders, (74) 406
  operations, variation in technique of, (137) 938
Serous diseases of maxillary antrum, (115) 469
Serum-albumin, fallacy to avoid when using Heller and ferrocyanic, (98) 218
Serum therapy and immunity, (64) 1274
  therapy in streptococcal infection, (66) 531
Serums, antitoxin animal extracts and, (172) 142
Sex, evolution and psychology of, (80) 1559
Sexual function in man, disorders of, (126) 938, (110) 1489
  instinct and its control, (69) 659
  instinct, development and control of, (100) 1632
  instinct, development of, (117) 282, (110) 1419
  intemperance, (11) 281
Sewage disposal or purification, (90) 282
Shock, (89) 1632
  general consideration of, (66) 281
Shoulder joint, clinical notes on injuries to, (127) 142
Sick, outdoor treatment of the, (66) 717
Sigmoid and colon, inflammation of, (11) 405
Sigmoiditis, (169) 1275
Sigmoidopexy for prolapse of rectum, (164) 1275
Silver nitrate injections in phthisis, (29) 658
  salts, newer, (109) 406
Sinus, frontal, anomalies of, *239
  frontal, empyema of, *233
  phlebitis, (70) 1418
Sinuses, accessory, of nose, importance of diseases of, (144) 346
  frontal and ethmoidal, empyema of, (10) 217
  nasal accessory, after treatment of operation on, (24) 405
  venous, of brain, wounds of, (57) 218
Sinusitis nasi and otitis media following influenza, (89) 1419
Skiagraphic diagnosis for renal and ureteral surgery, *1228
Skin, complications of syphilis of, (31) 598
  carcinoma of, *1590
  covered by green scales, mildly inflammatory condition of, (139) 863
  diseases, Roentgen rays in treatment of, *820
  diseases, therapeutics of, (48) 1727
  grafting, (138) 63
  grafting by means of freezing, (17) 281
  grafting in treatment of stenosis of larynx, (52) 1488
Skull, fracture of, (61) 862, (133) 1206, (93) 1346, (5) 1699
Sleep, suggestion during, (109) 218
Smaller medical colleges and medical education, (35) 1273
Smallpox, (80) 346, (57) 469, (157) 1140, *1608
  and vaccination, *1677
  and vaccination, recent epidemic of, (152) 1140
  at Michigan Asylum for Insane, epidemic of, (8) 1726
  diagnosis of, (2) 1699
  diagnosis of mild and irregular, *302
  distinguishing characteristics between mild, and chickenpox, *305
  epidemic of, (40) 345, (58) 598, (125) 1206, (135) 1275, (93) 1419
  epidemic in orphanage, (79) 1632
  eruption, (22) 1558
  historical note on, (18) 1558
  in Minnesota, (39) 658
  in private practice, notes on cases of, *912
  mild, (77) 1345
  modern, observations on, (57) 598
  observations made in, (39) 937
  old and new, *299
  practical management of, (46) 937, (152) 1701
  prophylaxis of, (20) 1558
  pseudo or modified, *295
Smallpox, recent epidemics of, and failure of glycerinated lymph, (100) 599
  recent experience with, (84) 141, (87) 406
  sanitary features of, *299
  types of, (138) 407
  unusual type of, (6) 795
  why is present epidemic likely to continue, (122) 1489
Snake bite, unusual after-effects of, (5) 861
Snakes, hallucination of, (40) 1558
Social evil, the, (41) 406
Sociologic problems in relation to marriage, (113) 218, (140) 1063
Sodium cacodylate, clinical test of, (121) 599
  tungstate test for combined chlorid in chyme, (25) 598
Soft palate, papillomatous growths of, (138) 938
Somnambulism, (114) 1489
Southern California, observations on, (11) 1345
  Illinois Journal and Association, (135) 63
Southwest, aid and semitropic, and tuberculosis, (106) 1489
Spasm, nodding and rotatory, of head, (52) 598
Spasms, post-delivery, (109) 282
Spasmus nutans, unusual case of, (69) 1488
Spaying of cows for more and better milk, (144) 1700
Special health commissioners, report of, (115) 1633
Spectacles and eyeglasses, making and fitting of, (139) 63
Speculum, improved, Sims, (50) 218
  of bone, (29) 468
Speech as factor in diagnosis and prognosis of backwardness in children, *975
  development of, (41) 345
Spermatic cord, torsion of, (42) 1559
Spermine crystals in pus, (1000
Sphincter muscle, epithelioma of, (29) 217
Sphincters, contribution to pathology of, (127) 1206
Spider bites, original investigations of, in Southern California, (106) 1001
Spina bifida, case of, (146) 1140
  bifida or hydrorrhachitis, *62
Spinal cord, bullet wound in, (74) 62
  cord, diagnosis of lesions of, (7) 468
  cord, injuries to, (58) 1274
  cord, role of infections and intoxications in diseases of, (4) 140
  surgery, remarks on, *569, *621
Spine, caries of, (11) 1418
  gunshot wound of, (28) 1727
  injuries to, from orthopedic standpoint, (77) 346
  lateral curvature of, observations on, (67) 1205
  myeloma of, with compression of cord, (1) 1061
  osteo-arthritis of, case of, (44) 717
Splanchnoptosis, (8) 1631, (9) 1699, (24) 1727
Spleen, chronic enlargement of, association of anemia with, (35) 1138, (36) 1205, (9) 1273
  enlargement of, and anemia, (8) 1345
  human, intralobular framework of, (132) 1700
  surgery of, (105) 1559
  traumatic rupture of, (60) 937
Splenectomy, (145) 1001, (119) 1419
  case of, (111) 218, (114) 531
  in splenic anemia, (58) 218
Splint, interdental, for fracture of jaw, (79) 938
Spondylitis, tuberculous, (116) 1346
Sporadic cretinism, contribution to pathological anatomy of, (52) 862
Sprain, static electricity in treatment of, (39) 345
Sprains, (139) 1001
Sprays, nasal, (117) 218
Squint, cosmetic and visual results in, *1165
Stab wound followed by pneumonia, (40) 1000
  wound of heart, suture of, (20) 1699
Stab wound of liver, (36) 1273
Stadia of mental disease, (78) 1559
Staining interesting accident of, (16) 1345
State medicine, (128) 282
  medicine, growth of, (112) 406
  Sanatorium for tuberculosis in Rhode Island, (59) 1205
Static electricity in treatment of sprain, (39) 345
  electricity in tuberculosis, (159) 1140
Statistical study of one thousand patients, (103) 718
Steel, removal of piece of, from eye with giant magnet, (60) 345
Stenosis, duodenal, due to gall-stones, (144) 863
  lachrymal, in infants, *1671
  laryngeal, case of, (48) 141
  laryngeal, from papillomata, (127) 406
  nasal, effect of, on throat, ear and organs, (28) 717
  of larynx following fractures, (118) 469
  of rectum, (103) 1419
Stenson's duct, diseases of, (117) 1139
Stereognostic sense, the, (41) 1345
Stereoscope, simplified form of, (94) 599
Sterility in male due to dead spermatozoids, (13) 1699
  in women, (48) 468, (103) 938
  of American women, *890, (125) 1001, *1532
Stokes-Adams disease, slow pulse with reference to, (23) 717
Stomach, butyric and acetic acids in, (32) 1488
  carcinoma of pyloric end of, (43) 862
  cases, one morning's work with, (6) 1000
  chronic ulceration of, (24) 1418
  contents, hyperacidity of, (87) 1489
  contents, practical results from examination of, (36) 141
  contents, routine clinical examination of, (111) 1001
  dilated, (102) 63, (26) 1000
  diseases of, (40) 405, (42) 406, (42) 468, (59) 717, (38) 937, (55) 1699, (53) 1727
  erosions of, (137) 863
  functional signs of diseases of, (60) 1727
  human, indications for and against removal of, (3) 658
  indications for operation in malignant neoplasms of, (10) 795
  massage of, (6) 1631
  motor insufficiency of, (50) 659
  nine months in thoracic cavity with wounds of the diaphragm, (129) 1139
  round ulcer of, (85) 1062, (18) 1418
  study of fetal, *1674
  tube, when and how to introduce, (21) 1699
  washing in indigestion and gastritis of infants, (123) 938
Stomatology, preliminary work, *85
  section on, *3
Strabismus, (154) 346
  and its management, (73) 937
  operation, the, *1090
  concomitant, (64) 1488
  treatment of, *1167, *1242
  treatment of, other than operative, *1087
Strangulation of testis by torsion of cord, (41) 658
Strauss method, diagnosis of glanders by, (67) 1559
Streptothrical infections, (18) 795
Streptotoccal infection, serum therapy in, (66) 531
Streptococcus mucosus, (108) 863
Stress, periods of, and their dental marks, *94
Stricture, (125) 599
  of esophagus, treatment of, (14) 717
  of bowels and hydronephrosis caused by blow, (85) 1700
  traumatic, of esophagus, (27) 1558
  urethral, (81) 717, (45) 862
Strongyloides intestinalis, infection with, (54) 717

- Stypticin in uterine hemorrhage, (76) 346, (75) 1632
- Subjective healing, rationale of, (75) 62
- Subperitoneal tissue, surgical interest of, (44) 937, (137) 1419
- Substitute feeding of children, (46) 531
- Successes and failures, our, (12[illegible] 469
- Sulphate of copper in affections of cornea and lid other than trachoma, (3) 405
  - *of quinin as ecbolic*, (146) 938
- Sulphid of calcium, various opinions on, (95) 1062
- Sulphuric ether in removal of ceruminous plugs, (18) 658
- Summer diarrhea of children, (67) 598, (134) 599
  - dyspnea, study of cases of, (48) 598
- Sunshine and influenza, (28) 1418
- Superstitions, fads, etc., (130) 346
- Suppuration of faucil tonsil and peritonsillar tissue, (84) 1346
  - of middle ear, treatment of, (160) 1140
- Supraheated dry air treatment, (93) 1274
- Supraorbital reflex in facial paralysis, (24) 1558
- Suprapubic operation for varicocele, (87) 1274
- Suprarenal capsule, clinical application of, (95) 346
  - capsule, tuberculosis of, (14) 1345
  - extract, (49) 1139
  - extract and adrenalin in internal medicine, (160) 1275
- Surgeon in Toronto, passing of the, (75) 1345
- Surgeons, early, of Colorado, (92) 1489
- Surgeon's grip, useful article for, (178) 1275
- Surgery, abdominal, drainage in, (131) 1139
  - address in, (152) 1206, (29) 1345
  - at Illinois State Medical Society, (41) 62
  - clinical lecture on, (109) 141
  - dry method in, (89) 718, (172) 863
  - evolution of, (83) 469
  - in Berlin, (130) 1139
  - in nervous and mental diseases, (187) 142
  - modern requirements of, *1172, (143) 1700
  - of knee-joint, (99) 1419
  - of prostate, (1) 598
  - practical, observations on, (135) 1489
  - progress of, (35) 937
  - regional minor, (158) 63, (99) 282, (111) 469, (152) 938, (92) 1346, (127) 1419
  - renal and ureteral, present status of, *323
  - science and art of, (106) 282
  - twentieth century, (108) 1206
  - unusual cases in, (108) 141
- Surgical adjuncts, some, (95) 1632
  - assistant, the, (100) 282
  - cases, interesting, (47) 406
  - cases, minor, (121) 218
  - cases, report of, (117) 1346
  - cases, report of, from Children's Hospital, Boston, (24) 1000
  - diagnosis, (38) 345
  - emergencies from medicolegal standpoint, (47) 598
  - emergencies, some, (107) 469
  - introspection, (108) 469
  - operations in Drs. Brigg's private surgical infirmary, (155) 1063
  - operations on the aged, (1[illegible] 1419
  - practice, military, points in, (92) 1274
  - progress during nineteenth century, (34) 1727
  - suggestions, few, (88) 218
  - technique, laboratory aid in, (30) 1205
- Suture, autoplastic, in hernia, *1162
  - intestinal, (109) 1274
  - material, new absorbable, (123) 863
  - material, sterilization of, (47) 468
- Suturing without knots, (80) 1700
- Sweat baths and baths that increase bodily temperature, (1[illegible] 717
- Symblepharon treated by Thiersch grafts, (121) 1274
- Symphysiotomy in generally contracted pelvis, (81) 1062
  - place of, (13) 1000
- *Symptoms* and signs in disease, significance of, (130) 1560
- Synovitis, (110) 938
  - gonorrheal, of knee-joint, [illegible] 218
- Syphilis, (33) 717, (84, 85) 1632
  - ancient and modern conception of, *545
  - and general practitioner, (92) 1559
  - and life insurance, (133) 1346
  - benign, semi-malignant and malignant, (43) 1205
  - blood in, before, during and after treatment, (132) 346
  - cases of, (114) 938
  - cerebral, psychoses in, *1102
  - clinical observations on, (13) 345
  - communicative, in wet nurse, how best to diagnosticate, (56) 1205
  - *comparative* value of iodids and mercury in, (133) 282
  - corneal lesions in, *1669
  - curability of, (55) 1205
  - diagnosis and management of, (54) 1205
  - etiology of, (49) 1205
  - factors influencing severity of, (167) 1206
  - hereditary, (161) 1275, (146) 1419
  - how to treat, (159) 1206
  - ignored, (44) 1559
  - in innocent, (132) 1489
  - lesions of nervous system due to, (108) 1700
  - modern treatment of, (129) 1560
  - nasopharyngeal, diagnosis and treatment of, (121) 1062
  - of liver, (60) 62, (10) 598
  - of nervous system, *1105, (57) 1205
  - of nose and throat, (53) 1205
  - of skin, complications of, (31) 598
  - primary, treatment of, (179) 1275
  - questions and answers regarding, (42) 1205, (75) 1559
  - relation of, to blastomycetic dermatitis, *104
  - remarks on management of, (50) 1205
  - sources of error concerning, (44) 1205
  - surgery of, (39) 405
  - three years of active constitutional treatment of, necessity, (45) 1205
  - treatment of, (51) 1205
- Syphilitic affections of bronchi, lungs and pleura, (52) 1205
  - fever as complication in maternity case, (128) 1062
  - fever, cases of, (1) 61
  - lesions, primary, of faucial tonsil, *979
- Syphilitics, marriage of, (46, 47) 1205, (77, 78) 1700
  - typhoid in, (65) 1139

- Tabes, (70) 1205
  - anomalous form of, (53) 1418
  - cervical and bulbar, with necropsy, (78) 469
  - dorsalis, pathology of, (11[illegible] 1274
  - progressive muscular atrophy and, (93) 1206
- Table, new operating, dressing, and examining, (23) 1205
- Taenia saginata in child, (96) 531
- Tails in man, on occurrence of, (114) 63
- Talipes, (134) 1560
  - equinovarus, treatment of, (83) 1700
  - paralytic, operative treatment of, (78) 1418
- Tampon in gynecologic therapy, (15) 345
- Tannigen, further experiences with, (107) 346
- Tannin, method of making, as intestinal astringent, (19) 345
- Tarsadenitis meibomica, *1290
- Tea-intoxication with spinal symptoms, (141) 469
- Teeth, general practitioner and, (136) 1560
  - methods in preparation of, *90
- Teething in infants, (42) 1000
- Temperature by drugs, treatment of, *443
  - senses, hysterical dissociation of, (19) 1727
- Tendon and muscle transference, (10) 1488
  - grafting in infantile and spastic paralysis, results of, (40) 1205, (41) 1418
  - transplantation, (162) 863
- Tenia, consideration of, (146) 142
- Teratism of acephalic variety, (113) 1489
- Teratoma of testis, (59) 862
- Tertiary manifestations, unusual, *438
- Tesla currents and *x*-rays on bacteria, *1432
- Test-types for determining acuteness of vision, (102) 346
- Testicle and epididymis, tuberculosis of, (47) 937
- Testicle, tuberculosis of, (118) 1419
- Testis, strangulation of, by torsion of cord, (41) 658
  - teratoma of, (59) 862
- Tetanus, (57) 62, (51) 1727
  - *cold as cure for*, (128) 1139
  - fourth of July, (73) 598
  - in course of vaccinia, (3) 1699
  - in St. Louis, (1) 1488, (45) 1559
  - neonatorum, (145) 863
  - remarks on, (8) 345
  - therapeutics in, (110) 1346
  - traumatic, (61) 937, (159) 1701
  - treated with antitoxin, fatal case of, (6) 1138
- Tetany, case of, (131) 1274
  - caused by dilated stomach, (129) 938
- Text-book in physiology, what constitutes good common school, (51) 1274
- Therapeutics, (152) 1275, (157) 1701
  - *review of progress of*, (26) 345
  - some ancient, (88) 406
  - suggestive, (131) 532
  - *teaching of*, (84) 599
- Thermol, therapeutic value of, (38) 62
- *Thermometers, clinical, bacteriologic* examination of, (17) 62
- Thialion, (157) 938
  - *in alcoholic gastric catarrh*, (168) 63
- Thiocol and bisol, (139) 282
  - and dionin, notes on, (77) 1632
- Thiosinamine, (125) 142
- Thoracic duct, wounds of, occurring *in the neck*, (10) 861, (2) 937
- Thoracentesis, (116) 1001
- *Thorax, importance of making* thorough examination of, (69) 1418
- Throat and nose surgery, antisepsis in, (5) 598
  - cultures in diphtheria, value of, *1287
  - inflammation, rheumatism and, (2) 1726
  - nose and, *in general practice*, (95) 1139
- Thrombo-phlebitis following in*flammation of frontal sinus*, (67) 1345
- Thrombosis, (70) 1418
  - of cavernous *sinus*, (5) 1000
  - of central artery of retina, (50) 1062
- Thrush, (134) 1062
- Thuja occidentalis in removal of papilloma of larynx, *326
- Thyroglossal duct, persistence of, (16) 140
- Thyroid gland, total extirpation of, *185
  - gland, adenocystoma of, (17) 1632
- Tibia, deformity from injury to lower epiphysis of, (22) 1632
- Tic douloureux and removal of Gasserian ganglion, (14) 530
  - douloureux, bucco-antral route in neurectomy for, (13) 530
- Tics, convulsive, (20) 1345
- Tincture of iodin, infected wounds treated with, (10) 468
- Tinnitus aurium and ear vertigo, (41) 141
  - incudectomy in, (50) 1345
- Tissues, cancerous and tuberculous, difference between, (56) 141
- Tongue as breeding place for bacteria, *170
- Tonometer, Gartner's, (7) 1699
- Tonometric examination in chronic diseases of the heart, (22) 141
- Tonsil, faucial, suppuration of, and peritonsillar tissue, (84) 1346
  - malignant disease of, (117) 469, (32) 1205
  - mycosis of, and base of tongue, (20) 1727
- Tonsillitis, (121) 1419
  - aborted by adrenalin chlorid, (73) 1001
  - and peritonsillitis, glandular complications of, (85) 1346
  - from standpoint of general practitioner, (81, 117) 531
- Tonsillotomy rash, (116) 469
- Tonsils as portals of infection, (117) 142
  - functions of, (8) 861
  - the, (28) 1138
- Toothache, treatment of, (135) 532
- Torticollis in vertical deviation of eye, (116) 1700
  - spasmodic, (57) 1727
- Toxemia of pregnancy, (42) 1062
  - tuberculosis and, (50) 1139
- Toxemias, general, treatment of, (122) 1062
- Toxins, bacterial, action of proteolytic enzymes on, (106)
- Trachea and esophagus, foreign bodies in, (151) 1701
- Tracheal injections, (32) 717
  - tug, other conditions than aortic aneurysm which determine occurrence of, (75) 469
- Tracheotomy in breech presentation, *1036
  - unusual complication of, (119) 531, (147) 938
- Trachoma, prevalence of, (81) 1632
  - treated by salicylic acid, (132) 407
- Trachomatous patients in Toronto, (78) 1345
- Training schools for nurses, suggestions for improvement of, (9) 1558
- Transplantation, anorectal, (53) 1488
- Transvaginal band obstructing labor, (46) 1274
- Traumatism, report of few severe cases of, (154) 142
- Travel as cure for disease, (38) 1727
- Tremors from standpoint of life expectancy, (116) 1633
- Trephine, passing of, (10) 135
- Trichiasis, entropion and, surgical treatment of, (87) 938
- Trichinosis, (63) 1139
  - in U. S., frequency of, (101) 862
- Tri-chlor-tertiary-butyl-alcohol, therapeutic uses of, (35) 468
- Trigeminus, division of sensory root of, (22) 1727
- Trional fatalities, (17) 1418, (75) 1488
- Trip abroad, reminiscences of, (102) 1346
- Trophic affections of nails, (55) 1418
- Tropical countries, admissibility of people from, in life insurance, (118) 1633
  - diseases and remedies, (130) 407, *450
- Tripod, right-sided anatomical, (141) 1700
- Tropho-neuroses and their relation to vascular disease of extremities, (1) 140
- Tube casts, albumin and, (1) 1558
- Tubercle bacilli, method of demonstrating when associated *with influenza bacilli*, (137) 346
  - bacillus, comparative virulence of, from human and bovine sources, (64) 862
  - of peritoneum, (49) 345
- Tubercular disease of right hip and left knee, (47) 141
  - patients, how we should provide for, (76) 862
- Tuberculin, diagnostic test of, (19) 658
  - in human tuberculosis, therapeutic and diagnostic value of, (18) 937
  - test, the, (14) 1138
- Tuberculinum purificatum, Von Ruck's single experience with, (71) 531, (123) 532

- Tuberculodermata, treatment of, (61) 1345
- Tuberculose, Bekampfung der, (108) 938
- Tuberculosis, (130) 1062
  - acute splenic miliary, (54) 862
  - address on fight against, (12) 405
  - advantages of sanatorium treatment of, (4) 345
  - among Jews, infrequency of, (21) 1345
  - and legislation (132) 218
  - and schools, (127) 1346
  - and the trades, (147) 1063
  - and toxemia, (50) 1139
  - as insurance problem, (9) 717
  - atypical pneumonia and, (18) 62
  - bovine, and milk supplies, (3) 1488
  - bovine, is it dangerous to man, (65) 937
  - British Congress on, (42) 1632
  - climate and, (75) 1700
  - climate change in treatment of, (17) 658
  - climatic treatment of vs. home sanatoria, (26) 862
  - conjunctival, with peculiar onset, (118) 406
  - cough and its treatment in, (71) 862
  - devitalized air toxemia a cause of, (14) 1488
  - devitalized air toxemia and, (10) 1418
  - diagnosis and treatment of incipient, (54) 469
  - due to toxemic states, (122) 531
  - duty of state in regard to, (104) 141
  - early diagnosis and treatment of, (170) 142, (75) 531, (83) 599
  - fight against, *259, (1) 468
  - general consideration of, (97) 1001
  - genital. (50) 1488
  - guaiacol treatment of, (128) 1700
  - heredity and, (18) 1138
  - home treatment of, (5) 281, (7) 345, (30, 40, 80) 531, (115) 1206, (54) 1559
  - home vs. climatic treatment of, (30) 62
  - human and bovine, (11) 468
  - human, tuberculin in, (18) 937
  - hyperplastic, of vermiform appendix, (98) 1346
  - hypnotics in, (166) 63
  - importance of early diagnosis and treatment of, (109) 531, (117) 599
  - in Arizona, open-air treatment of, (33) 862
  - in city of Baltimore, distribution of, (106) 31
  - in relation to life insurance, (69) 1062
  - in sanitaria, (133) 218
  - incipient, skirmish line of, (59) 1345
  - influence of bacillus in, (92) 469
  - in the Middle States and its curability, 1718
  - laryngeal, diagnosis of, (3) 1138
  - latent pulmonary, (16) 345
  - miliary, (83) 346
  - municipal legislation and, (39) 1488
  - need of national co-operation in establishment of sanitoria for, (105) 1206
  - of animals in some of its relation to human tuberculosis, *508
  - of bladder, (65) 531
  - of bone, (39) 468, (84) 1062
  - of bones and joints, (62) 598, (70) 937
  - of cervical glands, tendon sheath and hip joints, (165) 1206
  - of childhood, (46) 598
  - of conjunctiva, (85) 938
  - of ear, (68) 469
  - of eye, (114) 142
  - of fascia, (60) 598
  - of female internal genital organs, (78) 1205, (120) 1274
  - of glands of neck, surgical treatment of, (59) 1062
  - of hip and spine, (122) 282
  - of joints, excision in, (118) 218
  - of kidney surgically treated, (65) 406
  - of sacroiliac joint, (7) 1631
- Tuberculosis of knee joint, amputation of thigh for, (53) 218
  - of larynx, (85) 406
  - of mesenteric lymph glands, (127) 346
  - of middle ear, (104) 469
  - of nasal mucous membrane, eye diseases in relation to, (74) 1345
  - observations on origin of, (128) 469
  - of peritoneum, (91) 1559
  - of portio vaginalis and cervix uteri, (81) 1418
  - of skin (122) 1274
  - of testicle and epididymis, (47) 937, (118) 1419
  - of testicle, seminal vesicles and prostate, (85) 346
  - of tubes, ovarian and peritoneum, (61) 598
  - of upper air passages, (120) 531
  - ozone in, (130) 1633
  - physician's relation to prevention of, (37) 1632
  - pregnancy and, (95) 63
  - prevalence and treatment of, amongst poor, (11) 1138
  - prevention of, (77) 281, (54) 598
  - prevention of, in predisposed children, *505, *830
  - preventive and curative treatment of, (140) 1140
  - primary, of pericardium, (89) 141
  - prophylaxis of, (31) 1000
  - pulmonary, (63) 659, (95) 1346
  - question, the, (10) 1138
  - recognition and treatment of, (69) 1632
  - registration of, (105) 531
  - remarks on, (11) 795
  - renal, some points regarding, (119) 1139
  - report on experiments of Dr. John E. Russell on, (109) 1001
  - sanatorium treatment of, (12) 1061, (98) 1139
  - sanitation and prevention of, (55) 345
  - shall we make diagnosis of, known to patient, (98) 1559
  - significance of early, in relation to treatment, (5) 140
  - some notes on, (136) 1489
  - spread of, by coughing, *685
  - state and individual prophylaxis of, (28) 1632
  - statistical note concerning contagiousness of, (5) 658
  - steps in prevention of spread of, (137) 469, (121) 531
  - surgical, medical treatment in, (153) 1206
  - transmission of, through meat and milk, (1) 1273, (18) 1345
  - treatment of, (175) 142, (101) 469
  - treatment of, in special sanatoria, (65) 717
  - unusual localizations of, (23) 1699
  - urea in treatment of, (123) 142, (3) 861
  - urinary and uro-genital, remarks on, (69) 937
  - use of drugs in, (21) 717
  - zoologic distribution of, (11) 658
- Tuberculous disease of infancy and childhood, prevention of, (104) 531
  - indigent, care of, (107) 531
  - joint disease, medicolegal aspect of, (2) 217
- Tubes and ovaries, plea for conservatism in treatment of inflammatory conditions of, (125) 863
  - tuberculosis of, (61) 598
- Tubules of kidney, note on basement membrane of, (123) 63
- Tuft's college medical school, (54) 937
- Tumor, accessory thyroid, at the base of the tongue, (56) 1139
  - benign, of breast, (153) 938
  - cerebellar, (91) 1206
  - circular, and hydrocephalus, (38) 1699
  - fibroid, removed by supravaginal hysterectomy, (103) 1700
  - intracranial, (29) 1000
  - meningeal, involving cranial nerves, (36) 1727
- Tumor of brain, operative procedure for, (30) 1000
  - of hair, (71) 1632
  - ovarian, (143) 1001
  - postnasal, removed by galvanocautery snare, (112) 469
  - subcortical, of occipital lobe, (56) 659
- Tumors, chalazial, (94) 1700
  - clinical lectures on, (60) 469
  - disappearing, (25) 937
  - fibroid, of uterus, (82) 469
  - fibroid, of uterus, complications and degenerations of, (60) 1062
  - fibroid, of uterus, origin and formation of, (6) 861
  - four cases of, (14) 1273
  - giant sacrococcygeal, (13) 1273
  - lectures on, (52) 218, (105) 718, (123) 1062, (56) 1345, (64) 1559
  - malignant, etiology of, (84) 62
  - of breast, treatment of, (13) 1726
  - on transplantation of, (96) 862
  - ovarian, requiring removal, (165) 1275
- Tunica vaginalis for hydrocele, inversion of, (57) 281
  - vaginalis testis, hydrocele of, radical cure of, (49) 717
- Turbinate body, middle, relation of, to nasal diseases, *189
- Twin conception, *644
- Two glass test, the, (78) 1139
- Tympanic vertigo due to obstruction within Eustachian tube, (65) 469
- Typhoid cholecystitis, (77) 1418
- Typhoid fever, (74) 281, (129) 282, (88) 531, (170) 1275
  - and typho-malarial fevers, (127) 1560
  - antiseptic and eliminative treatment of, (134) 1001
  - adrenalin chlorid for intestinal hemorrhage in, (125) 1489
  - bacilli in blood, frequency of, (54) 406
  - bacilli, on presence of, in blood of typhoid fever patients, (26) 1632
  - cases of, (109) 599
  - clinical resume of, (42) 141
  - complicated by croupous pneumonia, (79) 469
  - complications and sequelæ of, (8) 62, (6) 140, (49) 1632
  - diagnosis of, (117) 1001, (103) 1489
  - diagnosis of, in laboratory, *441
  - diagnosis and treatment of, (43) 1000
  - diet of, (70) 281
  - dietetic treatment of, *1251
  - endocarditis during, (26) 1061
  - etiology of, (142) 863
  - facts learned in management of, (34) 1558
  - in country practice, (135) 1001
  - in infancy and childhood, symptoms of, *440
  - in North Carolina, (111) 531
  - infantile, (9) 658, (47) 862
  - infection without lesion of intestine, (53) 406
  - in rural districts of North Carolina, (189) 142
  - in syphilitic, (65) 1139
  - in tuberculous patient, (16) 468
  - intestinal obstruction from, (85) 1205
  - intrarectal injections of normal salt solution in, (79) 218
  - late epidemic of, (114) 346
  - management and treatment of, (48) 1488
  - management of, in country practice, (113) 1346
  - modern methods in management of, (26) 795
  - modern views of sources of, (76) 531
  - nitrate of silver in, (174) 142
  - progress in treatment of, (149) 346
  - salient points in epidemic of, (18) 217
  - specific treatment of, (132) 1001
  - statistics of, (10) 1699
  - surgical intervention for intestinal perforation in, (131) 863
  - treatment of, (78) 406, (90) 406, (92) 531, (126) 532, (34) 1000, (91) 1139, (74) 1205, (32) 1418, (104) 1489, (101) 1559
- Typhoid treatment of, in children, *1182
  - ulcer, perforating, (12) 1558
  - value of Widal's reaction in diagnosis of, (41) 1205
  - Widal's reaction in, (141) 1140
  - with perforation of colon and gall bladder, (14) 468
- Typho-malarial fever (133) 599, (128) 1560
- Tyrol, Curorte in, (84) 218, (69) 281

- Ulcer, corneal, (53) 141
  - gastric, and carcinoma, surgery of, (50) 1274
  - gastric, pathology of, (84) 1139
  - gastric, unusual case of, (30) 795
  - gummatous, of bladder, with abscess of prostate, (55) 281
  - hemorrhagic, partial gastrectomy for, (22) 1138
  - of duodenum considered from surgical standpoint, (37) 468
  - of stomach caused by diphtheria bacillus, (56) 406
  - perforating typhoid, recovery from, (64) 218
  - round, of stomach, (85) 1062, (18) 1418
  - tubercular, of stomach, (23) 1138
- Ulceration, chronic, of stomach, (24) 1418
  - post-typhoid, and abductor paresis of larynx, (96) 1274
  - syphilitic, (66) 1274
- Ulcerations of rectum, (150) 346
- Ulcers, corneal, (138) 282
  - few points in diagnosis of, (137) 1001
  - gastric, pathology of, (50) 345
  - of leg, (110) 63
- Uncinariosis, (3) 140
  - in man and animals in U. S., (129) 599
- Unguentum Crede, meningitis treated with, (82) 1001, (175) 1275
- U. S. Army system of personal identification, (13) 1418
- Universal medical blank, report of commission on, (120) 1633
- Upper air-tract in children, catarrhal diseases of, (52) 1559
- Urea in treatment of tuberculosis, (123) 142, (3) 861
  - quantitative determination of, (146) 863
- Uremia, acute, washing the blood in, (154) 863
  - differential diagnosis of, (4) 530
- Ureter catheterism in male, (157) 1266
  - consideration of, (64) 281
  - double, of right kidney, (93) 141
  - transplantation of, for cure of uretero-vaginal fistula, (56) 1488
  - traumatic injuries of, (62) 141
- Uretero-cystotomy, contribution to experimental, (61) 1062
- Urethra and bladder, foreign bodies in, (49) 468
  - female, carcinoma of, (86) 1700
  - gonococcal auto-reinfections of, (158) 346
  - male, stricture of, (45) 862
  - rupture of, (35) 1558
- Urethral diseases, fallacies in treatment of, *1223
  - orifice, measurement of, (161) 863
- Urethritis, acute anterior treatment of, (94) 1062
  - acute specific, treatment of, (170) 863
  - calculous nephritis and, indications for operation in, *1451
  - chronic, (111) 1139
  - neurasthenic, (74) 1632
  - or gonorrhea, (122) 1139
  - septic, remarks on, (12) 346
  - specific, (158) 470
- Urethroscope, the, (6) 1726
- Urethrotomy, internal, probable cause of failure in, (58) 1418
- Uric acid fallacies, (130) 863, (1) 1138, (113) 1206
- Uricacidemia, (139) 599

Urinary bladder, hernia of, (9) 62
  bladder, diagnosis of diseases, (5) 1631
Urination, irritable senile, (81) 1559
  prostatic obstruction to, (63) 1488
Urine, examination of, as a method of diagnosis, (136) 63
  examination, in diseases of male sexual organs, (56) 281
  freezing point of, (2) 140
  in nephritis, microscopic examination of, (94) 1489
  in pregnancy, toxicity of, (33) 1418
  suppression of, (95) 531
  toxicity of, in pregnancy, (75) 1274
Urticaria, bullous, (121) 1489
  post-diphtheritic, (26) 1138
Uterine fundus, cancer of, (72) 141
  polypi, case of, (154) 938
Uterus, cancer of, (90) 718
  cases of ventrosuspension of, (21) 598
  conservative treatment of diseases of, (169) 142, (132) 469, (110) 531
  displacements, of few etiologic factors in, (110) 1206
  fibroid tumors of, (82) 469
  hydatids of, (75) 1062
  illustrations of, (91) 218
  imparous, ridges, furrows and prominences of, (69) 406
  indications for curettage of, (95) 1419
  instrumental perforation of, (27) 1727
  labor in dislocation of, (65) 1205
  lipo-myoma of, (90) 1700
  operation for retrodisplacement of, *424
  posterior displacement of, indications for treatment of, (85) 718
  preguant, gunshot wounds of, (35) 1345, (36) 1418
  prolapse and procidentia of, (68) 406
  retrodisplacements of, (110) 1559
  retroversion of, satisfactory operation for certain cases of, *913
  rupture of, (41) 1632
  some anomalies of, (43) 1559
  suspension of, (51) 281
Uvula, primary epithelioma of, (10) 530
  traumatic affections of, *642, (58) 1000
Vaccination, (99) 63, (114) 218, (115) 531, (100) 1062, (59) 1139
  a century of, (1) 1699
Vaccination and aseptic glycerinated vaccine, (80) 346
  normal, (91) 718
  smallpox and, *1677
  technique of, (21) 1558
  vaccine production and, (4) 1699
  vexed question of, (23) 1488
Vaccine production and vaccination, (4) 1699
Vaccinia, generalized, (22) 795
  genuine, characteristics of, (19) 1558
Vagina and uterus, double, case of, (48) 62
  applied anatomy of, (111) 1700
  congenital malformation of, (24) 598
  foreign body in, (148) 1489
Vaginal drainage in non-operative cases, (147) 470
  outlet, repair of, at time of labor, (171) 863
  section for pus in pelvis, (33) 1699
Vaginitis, exfoliative, rare case of, (65) 1062
Valves of rectum, (31) 141, (48) 281
Varicella, variola and differential diagnostic points in, (115) 1062
Varicocele, (62) 1559
  suprapubic operation for, (87) 1274
Varicose veins and ulcers, treatment of, (129) 142
Variola, *307
  and varicella, differential diagnostic points in, (115) 1062
  difficulties in diagnosis of, (119) 938
Varix, filarial lymphatic, (48) 862
Vena cava, occlusion of, from compression, (4) 217
Venereal diseases, (132) 1062
  diseases, statistical study of, (82) 1559
Venesection, value of, followed by saline injection in pneumonia, (96) 1001
Ventral fixation for anterior displacements of uterus, (40) 862
  fixations, pregnancies following, (71) 345
Ventrosuspension of stump for bladder prolapse, (57) 718
  of uterus, cases of, (21) 598
Veratrum viride, (164) 63
  viride in pneumonia, (84) 1559
  viride, puerperal eclampsia treated with, (125) 532, (46) 717
Verbesserte Beinprothese, (83) 218
Vermiform appendix and appendicitis, (108) 1419
Vermin, parasitic, and other insect pests in spread of disease, (28) 1061
Version, (68) 1205
Vertebræ, cervical, dislocation of, (105) 938
  cervical, fracture of, (102) 282
Vertex, anterior, presentations, (79) 1489
  occipito-posterior positions of, (75) 346
Vesical emergencies, (3) 1558
Vicarious fovea, is theory of, erroneous, (145) 1206
Vicious circle after gastroenterostomy, (18) 468, (21) 530 530
Vienna hospitals, notes on, (3) 1345
Virchow, Rudolph, eightieth birthday of, (68) 1727
Viscera, abdominal, demonstration of model of, (7) 598
Vision, economic valuation of, (106) 346
Vital statistics in Louisiana, (143) 1140
Vitiligo, (113) 599
Vitreous phosphorous poisoning, acute, (133) 346
Voice preservation, (101) 599
Vomiting, acute, beer in, (31) 1061
  pernicious, of pregnancy, (162) 63

Water, application of, in chronic diseases, (84) 346
  importance of drinking freely of, (23) 1273
  is it necessary in cleansing of floors, (36) 658
  polluted, effects of, on fish life, (88) 346
  pollution, (93) 282
  potable, (134) 863
Wax models, preparation and uses of, (66) 862
Weak heart, cases of, (72) 62
When fortune smiles, (126) 469
While there is life there is hope, (34) 598
Whooping cough, treatment of, (128) 532, (29) 795
Widal reaction in typhoid of children, (37) 1558
  reaction, the, (141) 142
Widal's reaction, how long does it persist, (58) 1345
  reaction in typhoid, (141) 1140, (41) 1205
Windpipe, nail in, (151) 1701
Winnipeg meeting of Canadian Medical Association, (83) 1139
Winter diseases, (111) 1489
Wolff graft, large, transplantation of, (48) 1062
Woman from standpoint of life insurance, (131) 1346
Woman, medical, as teacher in medical schools, (57) 1345
  of the tenement, (155) 863, (49) 1000
  position of, during delivery, (33) 937
Woman's Hospital reports, (142) 1001, (90) 1559
Womb, retrodeviations of, (111) 1559
Women physicians in care of state insane, (93) 1062
  sterility in, (103) 938
Work and reward of physician, (103) 63
Wound, perforating, of upper lid and eyeball, (54) 1062
Wounds for sanious discharges, for, (133) 1560
  incised, (88) 1206
  penetrating, of heart, (21) 1727

Xeroderma pigmentosum, ocular affections in cases of, (49) 1062
X-ray and photographic technique, (136) 1206
  in diagnosis, (157) 142
  in diagnosis of renal stones, (31) 1205, (123) 1700
  in treatment as well as diagnosis of certain surgical diseases, (133) 1001
  stereoscope, (12) 1488
  therapeutic value of, in lupus vulgaris, (80) 1139
X-rays, cancer treated by, (23) 862
  intestinal obstruction diagnosed by, (19) 1000
  retinitis and conjunctivitis from, (8) 937
  Tesla currents and, on bacteria, *1432
  treatment of certain forms of cancer by, *688
Xanthoma of eyelids, (19) 1699

Yellow fever, experimental, (1) 217, (11) 1558
  fever, mode of transmission of infectious agent in, (27) 1273
  fever, mosquito insignificant in propagation of, (13) 468
  fever, prevention of, (26) 1273
  fever, propagation of, (7) 530
  fever, transmission of, (165) 938
  fever, two ways of transmission of, *1387
  jessamine, tincture of, in spasms, fevers, etc., (140) 346

Zygadenus frumenth and zygadenus venosus, composition of, (70) 1559

AMERICAN MEDICAL LITERATURE

INDEX OF AUTHORS

This Index includes the names of authors of articles which have appeared in this journal, as well as of those listed under Current Medical Literature. This practically includes the names of those who have published articles in all the leading journals of the country. The * preceding the page reference indicates that the article appeared in full in THE JOURNAL.

Aaron, C. D., (16) 1061
Abbott, A. C., (62) 1345, (1) 1488
Abbott, A. W., (41) 217
Abbott, F. C., (40) 1727
Abbott, G. E., (138) 346
Abbott, L. F., (144) 1700
Abbott, L. J., (101) 1632
Abbe, R., (24) 468, (1) 1726
Abell, I., (47) 937, (118) 1419
Abrams, A., (44) 62, (55) 598, (45) 1488, (17) 1699
Abt, I. A., (40) 62, (48) 141, (65) 218, (38) 281, *445, (59) 469, (114) 1001, (80) 1489
Ackert, W. S., (24) 1273
Adami, J. G., (5) 405
Adams, A. L., (49) 1139
Adams, F. L., (89) 1206
Adams, J. H., (117) 1489, (52) 1699, (38) 1727
Adams, W. F., (97) 1139
Adamuck, E., (118) 1700
Adler, Jr., L. H., (31) 345
Adt, L. F., (82) 1418
Ager, L. C., (6) 1138
Agramonte, A., (1) 217
Aikin, J. M., (145) 346, (36) 717, (108) 1274, (7) 1726
Albertotti, G., (108) 346
Alden, C. H., (24) 217, (13) 1418
Alderton, H. A., (30) 937
Aldrich, C. J., (91) 346, (14) 405, (35) 658, (137) 1139
Alexander, S., (40) 658, (69) 937
Alexander, W. J., (38) 217, (78) 717
Alford, E. T., *834
Alger, E. M., (153) 346, (25) 468
Allaban, J. E., (81) 1700
Alleman, L. A. W., (2) 658
Allen, C. W., (72) 1205, (6) 1418, *1593
Allen, D. P., (10) 861, (2) 937, (132) 1206
Allen, L. M., (106) 1062
Allen, M. K., (46) 937, (152) 1701
Allen, S. B., (12) 937
Allen, S. E., (66) 1001
Allen, W. L., (130) 1419
Allison, C. C., (143) 346
Allison, J. E., (52) 281
Allison, W. R., (87) 141
Allport, F., (58) 531
Allport, W. H., (64) 141
Allyn, H. B., (26) 281, (14) 468, (10) 1699
Alvord, A. W., (60) 1418
Amberg, E., (85) 141, *323
Amberg, S., (69) 1488
Ambler, C. P., (147) 1063
Amyx, R. F., (28) 217
Anders, H. S., (28) 1418
Anders, J. M., (86) 62, *77, (32) 1273
Anderson, H. B., (84) 1139
Anderson, J. C., (157) 1701
Anderson, M., *90
Anderson, W. S., (9) 1000
Andrews, A. H., (128) 218
Andrews, E. W., (71) 62
Andrews, J. W., (123) 1206
Andrews, R. R., *3
Angell, G. M., (113) 469
Anthony, H. G., *104

Arbogast, B. C., (90) 1489
Archibald, F. M., (30) 217
Armstrong, E. E., (35) 1488
Armstrong, W. A., (112) 938, (76) 1205, (116) 1489, (132, 133) 1560
Arnold, H. A., (91) 1274
Aronstam, N. E., (136) 218, (43) 281, (155) 346, (61) 1345, (119) 1001, (80) 1559
Arrowsmith, H., (10) 1138
Ashburn, P. M., (34) 1632
Ashley, D. D., (55) 62
Ashmead, A. S., (117) 346, (78) 531, (62) 659, (37) 937, (126) 1062
Atherton, A. B., (42) 1559
Atkins, C., (79) 62
Atlee, L. W., (75) 862
Atkinson, A. D., (125) 346
Atkinson, J. L., (115) 1346
Atkinson, W. B., (37) 141
Atlee, L. W., (94) 141, (51) 345, (43) 598
Atwater, W. I., (25) 141
Atwater, W. O., (28) 62
Auerbach, M. A., (92) 218, (103) 531, (134) 599
Austin, A. E., (8) 598, (72) 1559
Austin, M. F., (83) 346

Babcock, R. H., (21) 217, (5) 281, (40) 531, (115) 1206, *1578
Babcock, W. W., (106) 1139
Bailey, F. R., (98) 862, (98) [illegible]
Bailey, G. L., (39) 281
Bailey, P., (8) 658
Bainbridge, W. S., (61) 62, (120) 282
Baines, A., (49) 598, (92) 718
Baird, R. W., (149) 63
Baker, A. L., (128) 863
Baker, A. R., (86) 938
Baker, F. H., (15) 1418
Baker, J. M., (167) 142
Baker, L. H., *189
Baker, L. K., *970
Baker, S., (75) 62, (130) 532
Baker, W. H., (27) 658
Baker, W. T. H., (127) 1700
Baketel, H. S., (140) 282
Bakewell, R. H., (15) 1699
Balch, F. G., (37) 1138
Blackford, Jr., C M., (49) 1727
Baldwin, E. R., (105) 862
Baldwin, F. A., (23) 1699
Baldwin, H. C., (16) 795
Baldwin, J. F., (47) 218, (86) 1139, (33) 1345
Baldwin, L. G., (44) 1727
Baldwin, W. H., (130) 938
Baldy, J. M., (72) 141, (5) 217, *314
Ball, M. V., (44) 1274
Ball, W. F., (90) 531
Ballantyne, J. W., *503
Ballard, J. C., (107) 282
Bandler, S. W., (49) 218, (33) 1000
Bane, W. C., *1667
Banga, H., (107) 938
Bangs, L. B., (19) 405
Bankston, R. C., (140) 142, (6[illegible] 659, (142) 1063, (131) 1633
Banta, C., (143) 63
Bar, L., (91) 938
Baradat, Dr., (11) 795
Barbat, J. H., *323
Barbour, L. P., (98) 1559
Barbour, P. F., (41) 468, (118) 1062, (60) 1274, (121) 1489
Barclay, W. F., (25) 1273
Bard, C. L., (139) 1063
Bardeen, C. R., (117) 126, (128) 63, (131) 1700
Bardes, A. C., (31) 1488
Bardwell, E. O., (31) 937
Barkan, L., (127) 469
Barker, L. F., (113) 63, (66) 1139
Barksdale, G., (150) 1063
Barnes, A. C., (19) 345
Barnes, H. E. W., (49) 468, (79) 717
Barnhill, J. F., (79) 862
Barr, G. L., (48) 1488
Barrett, J. D., (96) 1700
Barrick, E. J., (113) 1062
Barrows, H. D., (137) 1700
Barth, E., (73) 1345
Bartle, I. B., (127) 1001, (139) 1560
Bartlett, W., (139) 1700
Bartram, C. S., (45) 1000
Baruch, S., (84) 346, (2) 1061, (116) 1062
Baskett, N. M., (132) 1275
Bass, H. T., (172) 142
Bassett, V. H., (53) 406
Bates, W. H., (95) 346, (53) 1062
Batten, F. E., (38) 1418
Batten, J. M., (108) 1489
Battle, J. T. J., (174) 142
Baudoux, H. A., (143) 1206
Baum, W. L., *545
Baumfeld, J., (84) 218, (69) 281
Bawden, H. H., (142) 1206
Baxter, W. E., (96) 599
Bayley, E. H., (37) 862
Bayliss, A. W., (78) 281
Beach, W. M., (90) 1139, (123) 1489, (9) 1726
Beachman, A. L., (168) 1275
Beahan, A. L., (79) 1139, (91) 1346
Beates, Jr., H., (55) 469
Beattie, T. J., *493
Beaudoux, H. A., (105) 282
Beahan, A. L., (35) 345
Beck, C., (13) 140, (10) 468, (42) 659, (28) 937, *966, *1180, (72) 1418, (13, 73) 1488, (29) 1699, (10) 1700
Becker, B., (119) 1139
Becker, W., *1674
Beebe, J. E., (77) 62
Beebe, W. L., *299
Behrend, M., (26) 281
Beling, C. C., (30) 1699
Bell, A. N., (54) 598
Bell, C., (164) 142, (132) 218
Bell, J. W., (44) 406, (57) 1274
Bell, S., (131) 1062, (21) 1632
Bellamy, R., (26) 795
Belt, E. O., (87) 469
Benedict, A. L., (122) 142, (41) 406, (25) 598, (123) 1139, (160) 1275, (65) 1632
Benedict, F. G., (28) 62, (25) 141
Benham, E. W., (79) 346
Benjamin, A. E., (45) 1699
Benjamin, M., (15) 345
Bennett, T. J., (119) 1419
Berg, A. A., (21) 141
Bergey, D. H., (55) 531
Bergtold, W. H., (18) 62, (94) 1489
Berkeley, H. J., (91) 862
Bernays, A. C., (99) 406
Bernheim, M. S., (95) 63
Bertolet, J. M., (21) 1418
Beshoar, M., (112) 599
Bettmann, H. W., (90) 346
Betts, J. B., (55) 1000
Betts, W. W., (106) 1489
Betz, I. H., (49) 345
Bevill, C., (118) 346
Beyea, H. D., (1) 937, (3) 1000, (62) 1062, (115) 1274, (81) 1418
Beyer, G. E., (177) 863
Beyer, H. G., (25) 658
Bezzola, D., (93) 862
Bierring, W. L., (46) 406
Biller, J. G., (66) 218, (46) 1062
Billings, F., *483, *577, (130) 863, (1) 1138, (113) 1206, (50) 1418, *1503
Bingham, G. A., (135) 218
Binnie, J. F., (141) 1001
Birchmore, W. H., (28) 1000
Bird, U. S., (27) 1632
Bishop, C. A., (38) 1488
Bishop, F. D., (42) 1699
Bishop, L. F., (11) 1631
Bishop, S. S., *113
Bissell, F. E., (38) 658
Bixbey, E. M., (58) 1062
Bjorkman, G., (104) 1001, (111) 1346, (76) 1632
Black, C. E., (41) 62, (44) 1488
Black, H. A., (110) 1633
Black, M., (144) 1275
Blackford, Jr., C. M., (49) 1727
Blackham, G. E., (107) 1419
Blackmon, J. A., (170) 1275
Blair, W., (112) 1346
Blake, J. B., (3) 345, (20, 57) 862
Blakely, D. N., (25) 405
Blanchard, W., (67) 62
Blank, T., (50) 1139
Blech, G. M., (13) 1699
Bledsoe, R. E. B., (158) 1701
Bleile, A. M., (91) 282
Bliem, M. J., (156) 1701
Blincoe, A. G., (46) 281, (62) 1274
Blitz, A., (68) 659
Bloodgood, J. C., (34) 717, (124) 938
Bloom, I. N., (66) 1274
Blount, E. A., (41) 1559
Bluhm, G. I., (130) 469, (138) 1275
Blumer, G., (70) 531, (51) 598, (71) 1418, (62) 1488
Blumer, G. A., (68) 218
Bock, F. W., (144) 63
Boggess, W. F., (85) 1205
Boice, C. A., (98) 469
Boldt, H. J., (76) 346, (75) 1632
Bolton, B. M., (45) 1559
Bolton, P. R., (49) 659
Bondurant, E. D., (161) 63
Bonney, S. G., (26) 862, (9) 1138
Boody, G., (110) 141
Booker, W. D., (119) 282
Booth, B. S., (57) 1139
Borden, S., (182) 142
Bordley, Jr., J., (146) 1275
Borts, M., (48) 531
Boston, L. N., *685
Bottomley, J. T., (33) 1699
Bourland, R. C., (82) 1489
Bouton, L. G., (136) 282
Bovee, J. W., (35) 141, *254, (25) 281
Bowditch, V. Y., (22) 937
Bowe, E., (51) 1727
Bowen, D. C., (102) 282
Bowen, J. T., (62) 717
Bowman, D. E., (90) 218, (149) 1063
Bowman, J. L., (19) 1138
Bowman, M. H., (4) 598
Boyd, G., (127) 406
Boyd, G. M., (73) 141, (46) 717
Bracken, H. M., *307, (93) 1419
Brackett, A. R., (49) 141
Brackett, E. G., (7) 1345
Bradford, E. H., (17) 140, (33) 217, (17) 717, (140) 863, (19) 1273, (10) 1488
Bradley, A. E., (87) 1274
Brady, E. T., (46) 1274
Brandegee, W. P., (65) 469
Brannon, L., (148) 470, (85) 1700
Branth, J. H., (27) 530, (30) 1138
Brayshaw, J., (63) 1139
Breisacher, L., *1094
Brick, P. L., (43) 1062
Brickner, W. M., (100) 282
Bridge, N., (105) 1001
Briggs, C. E., (10) 861, (2) 937
Briggs, S. S., (155) 1063
Briggs, T. J., (112) 1700
Briggs, W. A., (87) 1205
Brimi, C. L., (82) 346
Brinton, J. H., (81) 1559
Broad, G. B., (30) 1205
Broadstreet, S. C., (159) 1701
Brobst, C. H., (52) 659
Brock, R. P., (74) 1727
Brockman, D. C., (97) 141, (124) 1560
Brodhead, Dr. (91) 1001
Brodhead, G. L., (68) 1205
Brodnax, B. H., (75) 281, (109) 282
Bronson, E. B., (100) 1139, (45) 1727
Brooks, H., (95) 141, (4) 1418
Broome, G. W., (36) 405
Broter, L., (11) 1488
Brothers, A., (5) 1558, (137) 1633
Brower, D. R., (91) 141, (44) 281, (20) 598, (135) 863, (124) 1062, (36) 1727
Brown, A., (65) 598
Brown, C. N., (43) 141
Brown, E. E., (90) 1419
Brown, E. J., (42) 531
Brown, H. R., (64) 1205
Brown, J. B., (46) 1139
Brown, J. M., *326
Brown, M. R., (68) 1062
Brown, P. K., (39) 1558, (69) 1559
Brown, P. U., (40) 1488
Brown, S., (111) 282, (77, 95) 1001
Brown, T. R., (24, 53) 717, (20) 1205
Brown, W., (82) 62
Browning, C. C., (106) 1001
Brownlee, J. S., (155) 1206
Brownrigg, A. E., (2) 345, (83) 531, (100) 718
Bruce, H. A., (77) 659, (71) 1632
Bruhl, G., (72) 1345
Brummall, J. D., (40) 345, (135) 1275
Bruns, H. D., (113) 1700
Brunson, R., (74) 218
Brush, E. C., (93) 346
Brush, Jr., C. E., (118) 63, (23) 530
Bryan, W. A., (145) 1063
Bryant, D. C., (144) 346, (104) 1274
Bryant, J. D., (2) 1558
Bryson, J. P., (111) 218, (114) 531
Buch, A. H., (3) 861
Buchanan, J. R., (101) 938
Buchanan, S. A., (99) 63, (88) 531
Buckler, H. W., (107) 531
Buckley, W. C., (76) 281
Buckman, E. U., (64) 1700
Bull, C. S., (114) 142, (1) 717
Bull, H. R., (120) 1700
Bullard, J. W., (105) 1274
Bullard, R. T., (136) 1346
Bullard, W. L., (136) 142, (143) 938, (151) 1701
Bullitt, J. B., *1458
Bullock, T. S., (146) 1700
Bulson, Jr., A. E., (59) 141
Bunn, A. C., (77) 938
Bunts, F. E., (88) 1419, (27) 1558
Burger, H., (119) 1633
Burgess, M. G., (23) 1205
Burgess, T. D., (82) 531
Burnett, C. H., (41) 141, (27) 598, (50) 1345
Burnett, E. C., (113) 938
Burnham, F. R., (136) 1062, (93) 1559
Burns, T. M., (124) 1700
Burns, W. B., (99) 1559, (80) 1727
Burr, B., (168) 63
Burr, C. W., (27) 1345
Burr, T. S., (165) 863
Burrell, H. L., (21, 24) 1000
Burrell, H. R., (108) 1633
Burrows, E. G., (25) 405
Burton, R. C., (32) 1345
Bush, O. B., (146) 938
Butler, G. F., (83) 406
Butler, W. J., (81) 1489
Buxton, B. H., (19) 281, (22) 345, (59) 862
Byers, J. W., (68) 1274
Byers, W. G. M., (78) 1345
Byford, H. T., (68) 406, (147) 1001, (32) 1061, (46) 1418
Byrne, W. D., *1385

Cabot, A. T., (26) 141, (15) 717
Cabot, Jr., F., (54) 1205
Cabot, R. C., (57) 862, (9) 1558, (18) 1632, (64) 1727
Cahall, W. C., (13) 717
Caille, A., (93) 531, (64) 598, (72) 1205
Caille, Dr. (89) 659
Caldwell, C. E., (39) 1274
Calef, J. F., (56) 1727
Calvert, W. J., (131) 63
Cameron, M. B., (162) 63
Campbell, A. M., (64) 1418
Campbell, B. H., (85) 281
Campbell, C. G., (101) 469
Campbell, C. E., (129) 863
Campbell, D. M., (114) 406
Campbell, F. W., (132) 142
Campbell, M., (43) 1699
Campbell, W. A., (86) 1419
Campbell, W. F., (151) 938
Canan, C. W., (45) 345, (121) 346, (44) 468, (85) 531, (11, 157) 938
Candler, G. H., (72) 281, (128) 1560
Cannady, C. G., (40) 937
Cannon, J. H., (61) 281
Cannon, W. B., (26) 530
Capps, J. A., (71) 598
Carhart, J. W., (36) 1345
Carmichael, J., (98) 938
Carpenter, F. D., (144) 1001
Carpenter, G. T., *161
Carpenter, J. G., (40) 141, (34) 531, (102) 1062, (139) 1419, (51) 1559
Carpenter, W. G., (97) 1206
Carr, W., *5
Carr, W. P., (41) 1699
Carrier, A. E., (79) 141
Carroll, E. D. D., (186) 142
Carroll, F. J., (141) 938
Carroll, J., (1) 217, (26) 1273
Carson, M. F., (133) 1001, (148) 1701
Carson, S. C., (138) 142
Carstens, J. H., (36) 1061, *1172, (140) 1275, (79) 1559, (143) 1700
Carter, H. W., (5) 1418
Carter, J. M. G., (40) 405, (42) 406, (42) 468, (70) 598, (30) 717, (59) 717, (38) 937, (55) 1699, (53) 1727
Cartledge, A. M., (17) 598
Carveth, G. H., (66) 717
Cary, C., (53) 862
Casselberry, W. E., *186, (115) 469, (14) 1138
Cassidy, J. J., (76) 531
Castle, H. A., (130) 1274
Cattell, H. W., (106) 1206
Caywood, J. R., (49) 62

Cecil, J. G., (61) 531, (41) 138
Center, C. D., (42) 62
Chaddock, C. G., (66) 345
Chadwick, H. D., (20) 281
Chaffee, G., (165) 142
Chamberlain, W. P., (12) 1418
Chambers, G., *512
Chambers, T. R., (85) 1346
Chambers, W. H., (150) 1140
Champion, Dr., (139) 348
Chance, B. K., (84) 938
Channing, W., (99) 718
Chapin, Dr. (113) 346
Chapin, H. D., (26) 217, (89) 1001, (6, 26, 29, 71) 1205
Chapin, J. B., (10) 1205
Chapman, H. W., (108) 469
Chapman, W. C., (122) 1489
Chapman, W. L., (80) 938, (43) 1727
Chappell, W. F., (115) 1139
Charles, J. W., (58) 1700
Charlton, F. R., (64) 281
Chase, R. H., (24) 1138
Chassaignac, C., (29) 862
Cheatham, A., (176) 142
Cheatham, W., (156) 346, (146) 470, (2) 1726
Cheesman, W. S., (9) 62
Cheever, D. W., (34) 1205
Cheney, W. F., (5) 795
Chenoweth, J. S., (79) 1700
Cheseboro, E. D., (72) 218
Childs, Dr., (139) 346
Childs-MacDonald, G., (3) 658
Chisholm, A. T. M., (111) 63
Chittenden, C. C., *9
Chown, H. H., (111) 1062, (82) 1139
Christian, H. M., (82) 1559
Christie, Jr., R. J., (152) 142
Christopher, W. S., *691, *736
Church, A., (17) 1418, (75) 1488
Church, B. F., (60) 1000
Churchill, C. H., (56) 1274
Churchill, F. S., (94) 938
Ciminger, J. A., (159) 1275
Cippiani, A. G., (95) 469
Claiborne, J. H., (3) 405
Clap, E. W., (21) 281
Clark, C. F., *1090
Clark, E. F., (153) 1419
Clark, E. J., (127) 599
Clark, F. S., (87) 1139
Clark, J. F., (122) 1559
Clark, J. G., *360, (120) 1274
Clarke, A. P., (20) 345, (85) 718, (108) 1559
Clarke, J. R., (48) 937
Clarke, L. H., (136) 346
Claytor, T. A., (3) 140
Cleemann, R. E., (20) 1558
Clegg, J. T., (12) 1631
Clements, J., (82) 281, (99) 938, (88) 1001
Clemons, I. D., (158) 1140
Clendenen, F., (87) 531
Cleveland, J. L., (34) 405
Clevenger, W. F., (122) 469
Clinton, M., (140) 63, (51) 531, (73) 862
Clopton, M. B., (58) 1700
Clouse, G. M., (93) 282
Cobb, C. M., *243, (15) 795, (52) 1559
Cobb, J. O., (16) 1345
Cochrane, H. D., (32) 1345
Coe, H. C., (9) 1418
Coe, H. W., (110) 1274, (70) 1727
Coffman, J. J., (57) 469
Coggeshall, F., (75) 141
Cohen, B., (115) 142
Cohen, S. S., (33) 1061
Cohn, J., (65) 1345
Coile, H. P., (135) 282, (166) 1275
Cole, C. S., (57) 531
Cole, L. L., (40) 1000
Cole, R. I., (54) 406
Coleman, C., (45) 1632
Coles, Van H., (139) 1001
Coley, T. L., (12) 1699
Coley, W. B., (53) 218, (59) 862
Colins, A. N., (81) 141
Collins, H. O., (16) 1488
Collins, J., (93) 1206
Comstock, A. J., (137) 346
Cone, S. M., (162) 863
Conkey, C. D., (149) 1275
Conklin, W. J., (30) 1727
Conklin, W. L., (76) 1139
Conn, G. P., (93) 1346
Connell, F. G., 952, (109) 1274
Connell, W. T., (112) 1062, (126) 1346
Conway, W. B., (144) 1489
Cook, C. E., (59) 598
Cook, E., (70) 1062
Cook, H. P., (149) 346
Cook, L. B., (64) 1274, (114) 1346, (134) 1633
Cooke, A. B., (102) 531
Cooke, C. F., (97) 1700
Coolidge, E. L., (84) 1205
Coolidge, Jr., A., (75) 1418
Coomes, M. F., (46) 468, (36) 1000
Cooper, St. C., (81) 717
Coover, E. H., (14) 281
Corbett, J. F., (135) 1139, (47) 1699
Cordell, E. F., (157) 863, (105) 1062
Cordes, L., (59) 62
Cordier, A. H., *16, (31) 717, (125) 1419, (57) 1700
Corlett, W. T., (22) 1558
Cornell, S. S., (16) 658
Corner, E. M., (127) 1206
Cornwell, T. L., (32) 141, (156) 470, (142) 938
Corr, A. C., (43) 1488
Corson, E. R., (136) 1206
Corson, J. M., (46) 345
Cortelyou, P. R., (145) 938
Corwin, R. W., (80) 218, (68) 1001, (107) 1489
Coston, H. R., (84) 1727
Cott, G. F., *185, (61) 1727
Cottam, G. G., (98, 100, 101) 141, (98) 406, (38) 1632
Cotton, A. C., *638, (59) 1700
Cotton, F. J., (7) 1345
Cotton, W. W., (99) 346
Coulter, J. H., (128) 1700
Coulter, S., (8) 1061
Courtenay, J. W., (5) 61
Coveny, M. A., (93) 1062
Coverley, D. K., (83) 1559
Cowan, R. H., (2) 1000
Cowgill, J. E., (96) 218, (102) 406
Cowie, D. M., (87) 1489
Cox, A. E., (107) 63, (149) 1489
Craig, J. T., (72) 1062
Crandall, F. M., (1) 1699
Crandell, A. R., (5) 1061
Crandon, L. R. G. (27) 141
Crane, A. W., (32) 658
Cressy, A. Z. C., (48) 659
Critchfield, H. H., (54) 141
Crittenden, W. J., (18) 217
Crockett, S. S., (129) 407
Crocq, J., (122) 1633
Cross, W. W., (94) 1632
Crossen, H. S., (33) 658
Crothers, T. D., (91) 62, (126) 282, (99) 469, (122) 531, (124) 599, (45) 937, (79, 113) 1274, (150) 1701, (5) 1726
Crowder, T. R., (98) 1346
Crowell, A. J., (161) 1701
Crummer, L., (95) 406, (7) 1699
Crumrine, H. C., (116) 938
Crutcher, H., (89) 1346
Cullens, F. B., (158) 470
Cummings, H. W., (77) 1727
Cummings, S., (70) 406
Cumston, C. G., (46) 141, (10) 795, (21) 862, (6) 937, (33) 1138, (35) 1205, (117) 1206, (10) 1273, (51) 1345, (8) 1558, (22) 1699
Cunningham, S. R., (176) 863
Currier, A. F., (32) 468
Currier, D. M., (70) 717
Curry, J. J., (114) 863
Curtin, R. G., (101) 1700
Curtin, T. H., (10) 1061
Curtis, B. F., (128) 1206
Curtis, F. C., (79) 1632
Curtis, H. H., (3) 281
Curwen, J., (101) 1206
Cutts, R. E., (61) 598, (46) 1699

Dabney, S. G., (98) 531
Dabney, T. S., (122) 599
DaCosta, J. C., (56) 862
DaCosta, Jr., J. C., (112) 218, (85) 1419
Daggett, B. H., (80) 281, (54) 531
Dahl, S., (99) 1346
Dallwig, K., (116) 1700
Dalton, H. C., (32) 531, (36) 1273
Dalton, W. R. I., (16) 281
Damon, M. B., (50) 141
Dampeer, J. M., (108) 282
Dana, C. L., (1) 405, (84) 1274
Dane, J., (14) 658
Danforth, I. N., (101) 1139, *1298
Darby, F. H., (140) 1206
Darier, J., (15) 1273
Darling, C. G., (169) 863
Darnall, W. E., (74) 141, (70) 281, (12) 1273
Davenport, F. H., (23) 405
Davidson, A. H., (75) 1700
Davie, J. C., (68) 1632
Davis, A. E., (111) 346, *1167, (145) 1206, *1242
Davis, B. B., (87) 1062
Davis, C. E., (56) 1000
Davis, C. G., (21) 1205
Davis, E. C., (42) 598, (165) 1275
Davis, E. P., (9) 217, (46) 717
Davis, G. A., (39) 862, (153) 1701
Davis, G. E., (4) 1345
Davis, G. G., (67) 1632
Davis, G. W., (90) 1206
Davis, J. E., (83) 141
Davis, L. J., (152) 346
Davis, Jr., N. S., (94) 282, (136) 599, (85) 1062, (18) 1418
Davis, Sr., N. S., *1, (84) 862, (112) 1206
Davis, T. D., (46) 1345
Davis, W., (120) 863
Davis, W. B., (23) 598, (71) 1001
Davis, W. E. B., *1573
Daviss, E. P., (148) 63, (156) 1140
Dawbarn, R. H. M., (103) 469
Daxenberger, F., (175) 1275
Day, E. A., (88) 718
Day, F. K., (110) 1346
Deacon, G., (136) 469
Dean, F. W., (120) 142
Deas, W. A., (142) 346
Deaver, J. B., *25, *80, (63) 218, (28) 405, (135) 407, *898, (25) 1345, (87) 1346, (65) 1488, (23) 1558, (26) 1699
Dedman, J. E., (126) 1633
De Lantsheere, I., (117) 1633
Delatour, H. B., (42) 1727
Delaup, S. P., (142) 1140
DeLee, J. B., (70) 1274, (77) 1488
Demaree, E. W., (70) 469, (134) 1275
Deming, N. L., (106) 1346
Dench, E. B., (17) 217, *247, (4) 1205
Denig, R., (86) 1559
Denison, C., (10) 1418, (14) 1488
Denker, A., (71) 1345
Dennis, F. S., *1013
Dercum, F. X., (76) 62, (56 and 57) 659, (104) 938, (14) 1205
De Schweinitz, G. E., (15) 937
Detweiler, A. J., (37) 405
De Vecchi, B., (14) 1345, (31) 1558
DeVnoiss, A., (154) 470
DeVoe, A., (104) 406, (94) 531, (141) 1489
Dewey, R., (69) 598, *1102
Dewis, J. W., (22) 281
Dexenberger, F., (82) 1001
Dicken, W. E., (137) 1560
Dickerson, L. D., (164) 938
Dickerson, W. L., *1240
Dickey, J. L., (105) 406
Dickey, W. A., (122) 938
Dickinson, G. E., (142) 863
Dickinson, R. L., (71) 345, (69) 406, (1) 795
Dickinson, S. W., (47) 1559
Dickinson, W. L., (39) 1205, (67) 1418
Didama, H . D., (13) 861, (85) 862
Dietz, F. J., (153) 470
Diller, T., (77) 862, (1) 1418, (28) 1558
Dixon, A., (30) 862, (136) 1489
Dock, G., (84) 406, *1677
Dodson, J. M., (4) 658
Doerflinger, C. H., (83) 218
Donaldson, J. B., (89) 1139
Donnellan, P. S., (121) 1062, (3) 1138
Donoghue, F. D. (49) 1559
Doolittle, J. C., (43) 345
Dorsett, W. B., (36) 217, (35) 1000
Doty, A. H., (27) 1273
Douglas, C., *566
Douglas, R., (144) 1063
Douglass, C. F., (61) 937
Douglass, H. B., (54) 62
Dow, W., (116) 346, (121) 1700
Dowd, C. N., (17) 1138
Dowd, J. H., (78) 1139
Downes, A. J., *419, (15) 468, (106) 1700, (29) 1727
Downey, C. W., (148) 1489
Drake, N. A., (139) 1140
Drennan, J. G., (11) 281, (20) 1000
Drenning, F. C., (112) 469
Drewry, W. F., (45) 1274
Drysdale, C. R., (88) 862
Duane, A., (95) 599, (115) 1700
Duckworth, D., (130) 1346
Dudley, A. P., *357
Dudley, W. F., (138) 938
Dudley, W. H., (65) 1700
Duenas, J. L., (78) 1205
Dugan, R. C., (97) 1419
Dugan, W. C., (65) 1274
Duhring, L. A., (43) 1205
Dukf, J. W., (83) 1062
Dulles, C. W., (1) 281
Duncan, J. T., (120) 938, (127) 1062
Dunham, J. M., (131) 938
Dunham, T., (14) 717
Dunn, D. W., (116) 1206
Dunn, J., (41) 1488
Dunn, J. H., (51) 151, *1081, (52) 1139, (58) 1274
Dunn, J. T., (38) 1000
Dunn, R. M., (153) 63
Dunning, L. H., (78) 599, (107) 1559
Dunton, Jr., W. R., (101) 718
Dupaquier, E. M., (121) 599
Dupuy, H., (120) 469, (83) 1346
Durrent, J. A., (81) 1139
Duryea, J. T. (75) 937
Dwight, T., (58) 406, (7) 598
Dyer, I., (161) 1206, (144) 1419

Earnst, J. G., (140) 407
Earp, S. E., (124 and 146) 142, (95) 1062
Earp, S. W., (97) 531
Eastman, B. D., (42) 1274
Eastman, F. P., (125) 1139
Eastman, J., (83) 469
Eastman, J. R., (81) 469, (17) 1000, *1221, (128) 1274
Eastman, T. B., (81) 862
Eaton, D. B., (129) 1700
Ebright, G. E., (96) 1632
Eckley, W. T., (76) 1001
Edebohls, G. M., (39) 598, (16) 1138
Edes, R. T., (4) 217, (26) 598, (28) 658, (23) 717, (22) 1000
Edgar, J. C., (46) 717
Edsall, D. L., (60) 62
Edsall, F. H., (51) 937
Edwards, G. P., (85) 599
Egan, P. R., (25) 1488, (30) 1699
Egbert, J. H., (13) 598, (22) 1061
Ehrenfest, H., (116) 218, (118) 531
Eichelberger, A., (91) 1062
Einhorn, M., (34) 345, (10) 598
Eisendrath, D. N., (25 and 47) 1418, *1453, (6, 21 and 72) 1488, (26) 1558
Eitel, G. G., (36) 862
Eliot, Jr., E., (129) 1206
Ellett, E. C., (119) 531, (66) 659, (147) 938
Elliot, J. W., (38) 1138
Elliott, A. R., (1) 530
Elliott, J. H., (65) 717
Elliott, G., (83) 1139
Ellis, H., (117) 282, (110) 1419
Ellis, H. B., (100) 1206, (138) 1700
Ellis, W. P., (104) 1062
Ellsworth, V. A., (26) 658
Elwood, C. R., (86) 1489
Ely, J. D., (109) 1062
Ely, L. W., (19) 141
Ely, W. B., (93) 406
Emerson, R. L., (65) 1559
Emery, W. H., (123) 938
Emmet, J. D., (78) 141, (149) 470
Engelmann, G. J., *890, (124, 125) 1001, (67) 1274, (139) 1489, *1532
English, W. T., (54) 469, (9) 1488
Engman, M. F., (31) 598, (139) 863, (99) 1001
Enright, J. B., (47) 1488
Enslee, C. L., (140) 938
Erdmann, C. A., (46) 1000
Erdmann, J. F., (123) 1274
Eshner, A. A., (123) 142, (52) 598, (143) 863, (68) 1700
Eskridge, J. T., (77) 218, (25) 717, (28) 795, (7) 937, (18) 1000
Esmond, H. B., (153) 1063
Evans, W. A., *1176, *1674
Eve, P. F., *627
Ewald, L. A., (81) 218, (86½) 1559
Ewart, W., (39) 1205
Ewing, J., (18) 405, (69) 1139
Ewing, W. B., (69) 1700
Eyster, G. L., (131) 863
Ezell, B. S., (132) 599

Fagan, C. J., (69) 1632
Fairchild, D. S., (163) 142, (37) 468, (74) 598, *629
Fairfield, W. J., (95) 1346

Faith, T., (61) 345
Falk, J. C., (145) 863
Faller, A., (99) 1001
Fancher, H. L., (11) 1138
Farez, P., (109) 218
Farnarier, F., (110) 218
Farnum, C. G., *1721
Farrell, P. J. H., *241
Favill, H. B., (63) 937, (41) 1274
Fechheimer, M. A., (82) 141
Ferguson, E. D., (60) 1488
Ferguson, F. C., (82) 469
Ferguson, G. B., *327, (2 and 23) 468, (22) 530
Ferguson, R., (85) 1139
Ferrari, G. G., (106) 218
Findley, P., (66) 1062, (83) 1632
Finlay, C. J., *1387
Finlayson, D. W., (75) 598
Finney, F., (122) 1700
Finney, J. M. T., (55) 406, (71) 469, (25) 1727
Fisch, C., (33) 531, (45) 1559
Fischer, E., (16) 468, (23) 1138
Fischer, L., *1251, (25) 1632
Fischer, M. H., (8) 1000
Fischkin, E. A., (45) 141, (62) 1139
Fishberg, M., (21) 1345
Fisher, H. C., (142) 142
Fisher, H. M., (79) 469, (20) 1061
Fisher, W. H., (107) 1062
Fiske, J., (127) 1139
Fiske, S. A., (11) 1345
Fitch, M. E., (118) 1489
Fitch, W. E., (125) 218, (151) 1140, (49) 1274, (138) 1419
Fitzgerald, O. D., (50) 1000, (137) 1346
Flagg, C. E. B., (86) 1274
Fleming, C. K., (110) 599, (107) 1206
Fleming, H. C., (128) 1001
Fletcher, H. M., *170
Fletcher, W. B., (77) 599, (80) 862
Flexner, S., (67) 1139
Flick, L., (105) 531
Flick, L. F., (80) 531
Flint, A., (10) 140
Flippen, J. M., (162) 1701
Floeckinger, F. C., (70) 862
Floerschutz, Dr., (121) 1633
Floersheim, S., (21) 1061
Flood, E., (102) 1206
Floyd, B., (42) 1632
Flynn, H. S., (66) 1205
Foerster, F., (79) 659
Fontaine, H. T., (4) 345, (33) 1205, (11) 1273
Foote, L. H., (43) 1727
Forchheimer, F., (24) 1061
Ford, W. E., (66) 1632
Ford, W. W., (112) 863
Fordyce, J. A., (13) 345, (122) 1274
Forel, A., (83) 1274
Foshay, P. M., (101) 406, (134) 1346
Forsyth, D., (118) 938
Foster, B., (81) 346, (61) 406, *553, (121) 1206
Foster, E., (138) 407
Foster, H., (117) 469, (133) 1275
Foster, M. L., (87) 938
Foulerton, A. G. R., (28) 1345
Fowler, G. R., (19) 1205
Fowler, H. A., (127) 63
Fowler, R. S., (27) 862
Fox, R. H., (129) 1346
Foxworthy, F. W., (81) 599, (130) 1139, (16) 1727
Francis, E., (3) 1273
Francis, G. E., (30) 217
Frank, H. R., (91) 718
Frank, J., (74) 346
Frank, L., (49) 281
Frankenburger, J. M., (84) 281
Frankhauser, F. W., (114) 599, (74) 862
Frankle, B. B., (99) 1489
Fraser, H. E., (65) 531
Frazier, B. C., (46) 598, (51) 717, (46) 862
Frazier, C. H., (67) 862, (22) 1727
Frear, E. D., (41) 1062
Frederick, C. C., (115) 1559
Frederick, M. W., (111) 406
Free, J. E., (57) 717
Freeman, L., (145) 470, (108) 1206
Freeman, W. J., (79) 1345
Freer, O. T., *177
Freiberg, A. H., (92) 346
French, J. M., (39) 1138, (109) 1346
Freudenthal, W., (78) 659
Frick, W., *1590
Frick, W. J., (134) 532, (52) 1632
Fridenberg, P., (10) 937
Friedenwald, H., (80) 469, (92) 599, (150) 863, *1443
Friedenwald, J., (20) 30
Friedlaender, R., (19) 717
Friedman, L. V., (34) 1699
Fronczak, F. E., (124) 1274, (63) 1727
Frothingham, L., (67) 1559
Frutiger, A., (62) 469
Fry, F. R., (20) 717, (105) 938
Fry, H. D., (63) 406, *617
Fuetterer, G., (56) 345, (13) 658
Fuller, E., *1151, (50) 1205, (3) 1558
Fuller, W., (83) 1489
Fulton, A. L., (124) 406
Fulton, C. M., (147) 470
Fulton, F. T., (71) 218
Fulton, H. D., (22) 1345
Funk, D. S., (17) 1205
Funke, J., (20) 1418, (22) 1488
Fussell, M. H., (15) 530, (95) 531, *1287
Futcher, T. B., (1) 61, *815, (19) 530

Gaines, W. D., (137) 142
Gallant, A. E., (67) 345
Galloway, D. H., *581
Gammon, W., (29) 937
Gant, S. G., (150) 346, (86) 659, (150) 863, (108) 1139
Gardiner, B. F., (134) 218
Gardiner, C. F., (17) 658
Gardner, E. D., (110) 469
Gardner, F., (8) 468
Gardner, R. W., (75) 717
Garner, H. B., (69) 1418
Garrett, N. M., (41) 1632
Garrett, R. W., (106) 282, (87) 346, (74) 531
Garrigues, H. J., (26) 937
Gasser, H., (120) 1001, (151) 1419, (114) 1489
Gaston, Jr., J. McF., (86) 599
Gavin, F. W., (35) 217
Gay, G. W., (36) 1699
Gay, Jr., G. W., (42) 141
Gayle, V. W., (90) 406
Gehrung, E. C., (66) 406
Geiger, C. G., (84) 1632
Gellhorn, G., (84) 718, (65) 1062, (35) 1345, (36) 1418, (56) 1699
Gelpke, T., (117) 1700
Genella, L. J. Y., (22) 62, (133) 346
George, Jr., C., (168) 863
Gershel, M., (37) 1558
Getchell, A. C., *911
Gibb, J. S., *182
Gibbes, H., (130) 1062, (162) 1701
Gibbon, J. H., (61) 218
Gibbons, R. H., (80) 1700
Gibbs, M. D., (125) 1700
Gibson, A., (129) 1062
Gibson, C. L., (32) 1632
Gibson, J. D., (130) 1633
Giddings, W. P., (108) 141
Gies, W. J., (8) 1488, (13) 1558
Gifford, H., (115) 406
Gilbert, J. A., (16) 1699
Gilbert, R. B., (42) 1000
Gildersleeve, J. R., (46) 1559
Gillespie, R. L., (67) 659
Gillespie, W., (75) 346, (34) 1061
Gillette, A. J., (77) 346
Gillette, W. J., (32) 217, *495, (52) 1000, (92) 1001, (35) 1273
Gilliam, E. M., *113
Girsdansky, M., (63) 862
Giuliana, R. A., (24) 141
Glahn, J., (99) 1062
Glasgow, F. A., (164) 1206, (39) 1488
Glass, J. H., (29, 30) 1000
Gleason, E. B., (147) 863, (153) 938, (53) 1205
Gleason, J. H., (13) 1726
Gleitsmann, J. W., (2) 1345, (82) 1346, (15) 1726
Glendon, W. P., (131) 1419
Gloninger, A. B., (9) 1631
Gloor, A., (84) 469
Godshaw, C. C., (47) 598
Goelet, A. H., (128) 346, (33) 1273
Goffe, J. R., (29) 217
Goldan, S. O., (29) 345, (127) 1274, (17) 1727
Golden, W. W., (34) 1558
Goldspohn, A., (43) 217, *489, (99) 1206, (103) 1559
Goldstein, M. A., (84) 1346
Goldthwait, J. E., (24) 1000, (15) 1631
Gonzales, Prof., (91) 1632
Good, C., (23) 1488
Goodale, J. L., (83) 62, *102, (27) 405, (19) 1488
Goodfellow, G., (90) 1632
Gordinier, H. C., (91) 1206
Gordon, A., (4) 140, (141) 469
Gordon, O. A., (83) 718
Gordon, S. C., (152) 1275
Gordon, W. E., (37) 1699
Gorgas, W. C., (13) 795
Gorham, F. P., (111) 863
Gorhan, G. H., (51) 1699
Gossett, W. B., (59) 531
Gottheil, W. S., *21, (62) 62, *176, (15) 217, (48) 1205, (55) 1205
Gould, G. M., (7) 717, (2) 795, *1359
Gouley, J. W. S., (63) 1488
Gradwohl, R. B. H., (134) 1419
Grafft, J. A., (34) 937
Graham, A. B., (63) 281, (87) 599
Graham, D., (14) 1726
Graham, G. S., (9) 1205
Gramm, C. T., (94) 469
Grant, F. S., (98) 218
Grant, W. W., (79) 406, (52) 1345
Graves, M. L., (150) 63
Gray, A. L., (81, 117) 531, (121) 1419
Gray, E. H., (133) 599
Gray, J. H., (133) 469
Gray, Jr., J. W., (81) 1727
Gray, W. B., (37) 1061
Graybiel, A. G., (68) 1418
Grear, D. W., (163) 938, (108) 1346
Greeff, J. G. W., (82) 218, (63) 598
Greeff, R., (49) 1062
Green, C. H., (12) 1726
Green, Jr., J., (136) 863
Green, J. T., (35) 62
Green, S., (159) 938, (178) 1275
Greene, C. L., (93) 218, (9) 717, *887
Greene, R. H., (57) 281, (51) 1205, *1223
Greenleaf, C. A., (80) 1139
Greenleaf, C. R., (3) 1205
Greenleaf, J. S., (169) 1206
Greenley, T. B., (37) 1000
Greiss, W. R., (10) 717
Greiwe, J. E., (17) 530
Gremillion, C. J., (119, 120) 599
Griess, W. R., (117) 1062
Griffin, O. A., (89) 1489
Griffin, E. H., (18) 1699, (20) 1727
Griffith, F., (23) 217, (20) 658
Griffith, J. D., (92) 1274
Griffith, J. P. C., (120) 346, *440, (139) 469, (82) 1205, (117) 1274
Griggs, W. C., (30) 1699
Grindon, J., (114) 218, (115) 531, (56) 1418
Grinstead, W. F., (143) 142
Groff, G. G., (4) 1699
Grote, M. L., (163) 1206
Grothan, G., (107) 1274
Grothan, O., (106) 1632
Ground, W. E., (121) 863
Grout, D. D., (153) 1275
Guerrini, G., (31) 1558
Guiteras, J., (11) 1558
Guiteras, R., (22) 217, (36) 281, *1156
Guth, M. S., (88) 1139
Gwyer, F. W., (43) 659
Gwyn, N. B., (52) 1205

Haag, D. E., (124) 1489
Habermaas, A., (59) 659
Hackett, W. A., (94) 1062
Haggard, W. D., (110) 1001
Hale, A. B., (90) 599, *1380
Hale, J. A., (40) 468, (80) 717
Hale, W. S., (71) 531, (123) 532
Haley, W. A., (30) 1418, (38½) 1488
Hall, C. L., (100) 1346
Hall, E., (94) 1274, (137) 1275
Hall, H. L., (100) 1419
Hall, H. O., (18) 140
Hall, J. N., (5) 530, (111) 599, (26) 1418, (84) 1700
Hall, R. B., (106) 1559
Hall, R. L., *1464
Hall, W. S., (89) 346, (78) 1274, *1645
Hall, W. W., (44) 141
Hallberg, C. S. N., (93) 62
Halsey, R. H., (87) 659
Halstead, A. E., (12) 345, (69) 1727
Halsted, T. H., (67) 469
Halsted, W. S., (133) 63
Hamann, C. A., (60) 937, (92) 1419, (57) 1727
Hamburger, L. P., (25) 1727
Hamilton, E., (72) 1274
Hamilton, H. P., (146) 348
Hamlin, F. M., (103) 218, (102) 718
Hammond, L. J., (60) 862, (22) 1138
Hanawalt, H. O., (78) 62
Hance, I. H., (30) 531
Hand, Jr., A., (52) 862
Hanley, L. G., (142) 63
Hansell, H. F., (64) 345, (48) 717, (16) 861, (85) 938
Hanson, D. S., (114) 938, (74) 1138, (113) 1489
Hanson, F. A., (156) 863
Hanson, G. F., (109) 406
Hanson, R., *701
Happel, T. J., (104) 63, (121) 218, *295, *1301
Haralson, H. H., (128) 532, (165) 938
Harbert, E., (95) 1632
Hardaway, W. A., (57) 1418
Hardon, V. O., (44) 217
Hare, H. A., (8) 62, (6) 140, (74) 469
Harison, B. D., (42) 281, *1303, (42) 1488
Harlan, G. C., (101) 346
Harper, W. W., (139) 142
Harrigan, J., (76) 937
Harrington, A. L., (98) 718
Harrington, D. W., (52) 531
Harris, H. L., (134) 938
Harris, M. L., (63) 141, (58) 218
Harris, P. A., (67) 406
Harris, S., (7) 795
Harris, T. J., (109) 346, (26) 468
Harrison, E., (173) 142
Harrison, J. P., *644, (42) 937
Harrison, J. W., (54) 1274
Harrison, R. G., (114) 63
Harrison, R. H., (145) 63, (128) 282
Harrison, V., (34) 141
Harry, C. R., (108) 406
Harte, R. H., (133) 1206
Hartley, F., (55) 218
Hartwell, J. A., (35) 281
Hartwig, M., (102) 469, (53) 531
Hartzell, M. B., (99) 1139
Harvey, P. F., (27) 468
Harwood, W. E., (72) 598
Hatch, H. D., *164
Hatch, T. L, (39) 658
Hatfield, M. P., (130) 1700
Hathcock, A. L., (123) 1001
Hatton, E. M., (147) 1140
Hay, E. C., (133) 282
Hayd, H. E., (76) 141, (110) 1559
Hayden, J. R., (35) 1558
Hayem, Prof., (124) 1633
Haymore, G. P., (52) 1727
Haynes, I. S., (129) 346
Haynes, W. H., (81) 938
Hays, J. E., (33) 62
Hazen, E. H., (102) 141, (42) 345
Hazen, H. C., (32) 281
Head, G. D., (52) 141, *501, (38) 531, (47) 1000
Heald, R. J., (102) 1559
Heard, C. F., (91) 599
Hearn, W. J., (27) 345
Heath, F. C., (65) 281
Heffron, J. L., (105) 1419
Heichelheim, S., (132) 1633
Heidingsfeld, M. L., (44) 1559
Heineck, A. P., (128) 599, (116) 1001, (150) 1419
Heineman, H. N., (10) 62
Heisler, J. C., (120) 1346
Heitzman, C. W., (15) 598
Heitzmann, L., (56) 281
Hektoen, L., (90) 141, *1431
Helm, A. C., (149) 938
Henderson, C. R., (134) 1062
Hendrickson, H. W., *581
Henninger, C. H., (92) 1139
Henrotin, F., (3) 795
Henry, F. P., (23) 62
Henry, W., (60) 659
Henry, W. O., (92) 406, (90) 718
Henson, G. E., (125) 1346
Herald, J., (127) 1346
Heron, G. A., (18) 937
Herrick, C. J., (141) 1206
Herrick, J. B., (73) 62
Herring, J. H., (37) 1273
Herringham, W. P., (40) 1418
Hermann, C., (71) 1488, (25) 1699
Herter, C. A., (99) 1274
Herzog, M., (58) 218, (73) 1700
Hessler, R., (80) 599
Hewes, H. F., (3) 468
Hewitt, G. A., (107) 346
Hewlett, A. W., (26) 1632
Hickey, C. G., (6) 530, (98) 1489
Hickey, P. M., (85) 406

Cecil, J. G., (61) 531, (41) 138
Center, C. D., (42) 62
Chaddock, C. G., (66) 345
Chadwick, H. D., (20) 281
Chaffee, G., (165) 142
Chamberlain, W. P., (12) 1418
Chambers, G., *512
Chambers, T. R., (85) 1346
Chambers, W. H., (150) 1140
Champion, Dr., (139) 348
Chance, B. K., (84) 938
Channing, W., (99) 718
Chapin, Dr. (113) 346
Chapin, H. D., (26) 217, (89) 1001, (6, 26, 29, 71) 1205
Chapin, J. B., (10) 1205
Chapman, H. W., (108) 469
Chapman, W. C., (122) 1489
Chapman, W. L., (80) 938, (43) 1727
Chappell, W. F., (115) 1139
Charles, J. W., (58) 1700
Charlton, F. R., (64) 281
Chase, R. H., (24) 1138
Chassaignac, C., (29) 862
Cheatham, A., (176) 142
Cheatham, W., (156) 346, (146) 470, (2) 1726
Cheesman, W. S., (9) 62
Cheever, D. W., (34) 1205
Cheney, W. F., (5) 795
Chenoweth, J. S., (79) 1700
Cheseboro, E. D., (72) 218
Childs, Dr., (139) 346
Childs-MacDonald, G., (3) 658
Chisholm, A. T. M., (111) 63
Chittenden, C. C., *9
Chown, H. H., (111) 1062, (82) 1139
Christian, H. M., (82) 1559
Christie, Jr., R. J., (152) 142
Christopher, W. S., *691, *736
Church, A., (17) 1418, (75) 1488
Church, B. F., (60) 1000
Churchill, C. H., (56) 1274
Churchill, F. S., (94) 938
Ciminger, J. A., (159) 1275
Cippiani, A. G., (95) 469
Claiborne, J. H., (3) 405
Clap, E. W., (21) 281
Clark, C. F., *1090
Clark, E. F., (153) 1419
Clark, E. J., (127) 599
Clark, F. S., (87) 1139
Clark, J. F., (122) 1559
Clark, J. G., *360, (120) 1274
Clarke, A. P., (20) 345, (85) 718, (108) 1559
Clarke, J. R., (48) 937
Clarke, L. H., (136) 346
Claytor, T. A., (3) 140
Cleemann, R. E., (20) 1558
Clegg, J. T., (12) 1631
Clements, J., (82) 281, (99) 938, (88) 1001
Clemons, I. D., (158) 1140
Clendenen, F., (87) 531
Cleveland, J. L., (34) 405
Clevenger, W. F., (122) 469
Clinton, M., (140) 63, (51) 531, (73) 862
Clopton, M. B., (58) 1700
Clouse, G. M., (93) 282
Cobb, C. M., *243, (15) 795, (52) 1559
Cobb, J. O., (16) 1345
Cochrane, H. D., (32) 1345
Coe, H. C., (9) 1418
Coe, H. W., (110) 1274, (70) 1727
Coffman, J. J., (57) 469
Coggeshall, F., (75) 141
Cohen, B., (115) 142
Cohen, S. S., (33) 1061
Cohn, J., (65) 1345
Coile, H. P., (135) 282, (166) 1275
Cole, C. S., (57) 531
Cole, L. L., (40) 1000
Cole, R. I., (54) 406
Coleman, C., (45) 1632
Coles, Van H., (139) 1001
Coley, T. L., (12) 1699
Coley, W. B., (53) 218, (59) 862
Colins, A. N., (81) 141
Collins, H. O., (16) 1488
Collins, J., (93) 1206
Comstock, A. J., (137) 346
Cone, S. M., (162) 863
Conkey, C. D., (149) 1275
Conklin, W. J., (30) 1727
Conklin, W. L., (76) 1139
Conn, G. P., (93) 1346
Connell, F. G., 952, (109) 1274
Connell, W. T., (112) 1062, (126) 1346
Conway, W. B., (144) 1489
Cook, C. E., (59) 598
Cook, E., (70) 1062
Cook, H. P., (149) 346
Cook, L. B., (64) 1274, (114) 1346, (134) 1633
Cooke, A. B., (102) 531
Cooke, C. F., (97) 1700
Coolidge, E. L., (84) 1205
Coolidge, Jr., A., (75) 1418
Coomes, M. F., (46) 468, (36) 1000
Cooper, St. C., (81) 717
Coover, E. H., (14) 281
Corbett, J. F., (135) 1139, (47) 1699
Cordell, E. F., (157) 863, (105) 1062
Cordes, L., (59) 62
Cordier, A. H., *16, (31) 717, (125) 1419, (57) 1700
Corlett, W. T., (22) 1558
Cornell, S. S., (16) 658
Corner, E. M., (127) 1206
Cornwell, T. L., (32) 141, (156) 470, (142) 938
Corr, A. C., (43) 1488
Corson, E. R., (136) 1206
Corson, J. M., (46) 345
Cortelyou, P. R., (145) 938
Corwin, R. W., (80) 218, (68) 1001, (107) 1489
Coston, H. R., (84) 1727
Cott, G. F., *185, (61) 1727
Cottam, G. G., (98, 100, 101) 141, (98) 406, (38) 1632
Cotton, A. C., *638, (59) 1700
Cotton, F. J., (7) 1345
Cotton, W. W., (99) 346
Coulter, J. H., (128) 1700
Coulter, S., (8) 1061
Courtenay, J. W., (5) 61
Coveny, M. A., (93) 1062
Coverley, D. K., (83) 1559
Cowan, R. H., (2) 1000
Cowgill, J. E., (96) 218, (102) 406
Cowie, D. M., (87) 1489
Cox, A. E., (107) 63, (149) 1489
Craig, J. T., (72) 1062
Crandall, F. M., (1) 1699
Crandell, A. R., (5) 1061
Crandon, L. R. G. (27) 141
Crane, A. W., (32) 658
Cressy, A. Z. C., (48) 659
Critchfield, H. H., (54) 141
Crittenden, W. J., (18) 217
Crockett, S. S., (129) 407
Crocq, J., (122) 1633
Cross, W. W., (94) 1632
Crossen, H. S., (33) 658
Crothers, T. D., (91) 62, (126) 282, (99) 469, (122) 531, (124) 599, (45) 937, (79, 113) 1274, (150) 1701, (5) 1726
Crowder, T. R., (98) 1346
Crowell, A. J., (161) 1701
Crummer, L., (95) 406, (7) 1699
Crumrine, H. C., (116) 938
Crutcher, H., (89) 1346
Cullens, F. B., (158) 470
Cummings, H. W., (77) 1727
Cummings, S., (70) 406
Cumston, C. G., (46) 141, (10) 795, (21) 862, (6) 937, (33) 1138, (35) 1205, (117) 1206, (10) 1273, (51) 1345, (8) 1558, (22) 1699
Cunningham, S. R., (176) 863
Currier, A. F., (32) 468
Currier, D. M., (70) 717
Curry, J. J., (114) 863
Curtin, R. G., (101) 1700
Curtin, T. H., (10) 1061
Curtis, B. F., (128) 1206
Curtis, F. C., (79) 1632
Curtis, H. H., (3) 281
Curwen, J., (101) 1206
Cutts, R. E., (61) 598, (46) 1699

Dabney, S. G., (98) 531
Dabney, T. S., (122) 599
DaCosta, J. C., (56) 862
DaCosta, Jr., J. C., (112) 218, (85) 1419
Daggett, B. H., (80) 281, (54) 531
Dahl, S., (99) 1346
Dallwig, K., (116) 1700
Dalton, H. C., (32) 531, (36) 1273
Dalton, W. R. I., (16) 281
Damon, M. B., (50) 141
Dampeer, J. M., (108) 282
Dana, C. L., (1) 405, (84) 1274
Dane, J., (14) 658
Danforth, I. N., (101) 1139, *1298
Darby, F. H., (140) 1206
Darier, J., (15) 1273
Darling, C. G., (169) 863
Darnall, W. E., (74) 141, (70) 281, (12) 1273
Davenport, F. H., (23) 405
Davidson, A. H., (75) 1700
Davie, J. C., (68) 1632
Davis, A. E., (111) 346, *1167, (145) 1206, *1242
Davis, B. B., (87) 1062
Davis, C. E., (56) 1000
Davis, C. G., (21) 1205
Davis, E. C., (42) 598, (165) 1275
Davis, E. P., (9) 217, (46) 717
Davis, G. A., (39) 862, (153) 1701
Davis, G. E., (4) 1345
Davis, G. G., (67) 1632
Davis, G. W., (90) 1206
Davis, J. E., (83) 141
Davis, L. J., (152) 346
Davis, Jr., N. S., (94) 282, (136) 599, (85) 1062, (18) 1418
Davis, Sr., N. S., *1, (84) 862, (112) 1206
Davis, T. D., (46) 1345
Davis, W., (120) 863
Davis, W. B., (23) 598, (71) 1001
Davis, W. E. B., *1573
Daviss, E. P., (148) 63, (156) 1140
Dawbarn, R. H. M., (103) 469
Daxenberger, F., (175) 1275
Day, E. A., (88) 718
Day, F. K., (110) 1346
Deacon, G., (136) 469
Dean, F. W., (120) 142
Deas, W. A., (142) 346
Deaver, J. B., *25, *80, (63) 218, (28) 405, (135) 407, *898, (25) 1345, (87) 1346, (65) 1488, (23) 1558, (26) 1699
Dedman, J. E., (126) 1633
De Lantsheere, I., (117) 1633
Delatour, H. B., (42) 1727
Delaup, S. P., (142) 1140
DeLee, J. B., (70) 1274, (77) 1488
Demaree, E. W., (70) 469, (134) 1275
Deming, N. L., (106) 1346
Dench, E. B., (17) 217, *247, (4) 1205
Denig, R., (86) 1559
Denison, C., (10) 1418, (14) 1488
Denker, A., (71) 1345
Dennis, F. S., *1013
Dercum, F. X., (76) 62, (56 and 57) 659, (104) 938, (14) 1205
De Schweinitz, G. E., (15) 937
Detweiler, A. J., (37) 405
De Vecchi, B., (14) 1345, (31) 1558
DeVilbiss, A., (154) 470
DeVoe, A., (104) 406, (94) 531, (141) 1489
Dewey, R., (69) 598, *1102
Dewis, J. W., (22) 281
Dexenberger, F., (82) 1001
Dicken, W. E., (137) 1560
Dickerson, L. D., (164) 938
Dickerson, W. L., *1240
Dickey, J. L., (105) 406
Dickey, W. A., (122) 938
Dickinson, G. E., (142) 863
Dickinson, R. L., (71) 345, (69) 406, (1) 795
Dickinson, S. W., (47) 1559
Dickinson, W. L., (39) 1205, (67) 1418
Didama, H. D., (13) 861, (85) 862
Dietz, F. J., (153) 470
Diller, T., (77) 862, (1) 1418, (28) 1558
Dixon, A., (30) 862, (136) 1489
Dock, G., (84) 406, *1677
Dodson, J. M., (4) 658
Doerflinger, C. H., (83) 218
Donaldson, J. B., (89) 1139
Donnellan, P. S., (121) 1062, (3) 1138
Donoghue, F. D. (49) 1559
Doolittle, J. C., (43) 345
Dorsett, W. B., (36) 217, (35) 1000
Doty, A. H., (27) 1273
Douglas, C., *566
Douglas, R., (144) 1063
Douglass, C. F., (61) 937
Douglass, H. B., (54) 62
Dow, W., (116) 346, (121) 1700
Dowd, C. N., (17) 1138
Dowd, J. H., (78) 1139
Downes, A. J., *419, (15) 468, (106) 1700, (29) 1727
Downey, C. W., (148) 1489
Drake, N. A., (139) 1140
Drennan, J. G., (11) 281, (20) 1000
Drenning, F. C., (112) 469
Drewry, W. F., (45) 1274
Drysdale, C. R., (88) 862
Duane, A., (95) 599, (115) 1700
Duckworth, D., (130) 1346
Dudley, A. P., *357
Dudley, W. F., (138) 938
Dudley, W. H., (65) 1700
Duenas, J. L., (78) 1205
Dugan, R. C., (97) 1419
Dugan, W. C., (65) 1274
Duhring, L. A., (43) 1205
Dukf, J. W., (83) 1062
Dulles, C. W., (1) 281
Duncan, J. T., (120) 938, (127) 1062
Dunham, J. M., (131) 938
Dunham, T., (14) 717
Dunn, D. W., (116) 1206
Dunn, J., (41) 1488
Dunn, J. H., (51) 151, *1081, (52) 1139, (58) 1274
Dunn, J. T., (38) 1000
Dunn, R. M., (153) 63
Dunning, L. H., (78) 599, (107) 1559
Dunton, Jr., W. R., (101) 718
Dupaquier, E. M., (121) 599
Dupuy, H., (120) 469, (83) 1346
Durrent, J. A., (81) 1139
Duryea, J. T. (75) 937
Dwight, T., (58) 406, (7) 598
Dyer, I., (161) 1206, (144) 1419

Earnst, J. G., (140) 407
Earp, S. E., (124 and 146) 142, (95) 1062
Earp, S. W., (97) 531
Eastman, B. D., (42) 1274
Eastman, F. P., (125) 1139
Eastman, J., (83) 469
Eastman, J. R., (81) 469, (17) 1000, *1221, (128) 1274
Eastman, T. B., (81) 862
Eaton, D. B., (129) 1700
Ebright, G. E., (96) 1632
Eckley, W. T., (76) 1001
Edebohls, G. M., (39) 598, (16) 1138
Edes, R. T., (4) 217, (26) 598, (28) 658, (23) 717, (22) 1000
Edgar, J. C., (46) 717
Edsall, D. L., (60) 62
Edsall, F. H., (51) 937
Edwards, G. P., (85) 599
Egan, P. R., (25) 1488, (30) 1699
Egbert, J. H., (13) 598, (22) 1061
Ehrenfest, H., (116) 218, (118) 531
Eichelberger, A., (91) 1062
Einhorn, M., (34) 345, (10) 598
Eisendrath, D. N., (25 and 47) 1418, *1453, (6, 21 and 72) 1488, (26) 1558
Eitel, G. G., (36) 862
Eliot, Jr., E., (129) 1206
Ellett, E. C., (119) 531, (66) 659, (147) 938
Elliot, J. W., (38) 1138
Elliott, A. R., (1) 530
Elliott, J. H., (65) 717
Elliott, G., (83) 1139
Ellis, H., (117) 282, (110) 1419
Ellis, H. B., (100) 1206, (138) 1700
Ellis, W. P., (104) 1062
Ellsworth, V. A., (26) 658
Elwood, C. R., (86) 1489
Ely, J. D., (109) 1062
Ely, L. W., (19) 141
Ely, W. B., (93) 406
Emerson, R. L., (65) 1559
Emery, W. H., (123) 938
Emmet, J. D., (78) 141, (149) 470
Engelmann, G. J., *890, (124, 125) 1001, (67) 1274, (139) 1489, *1532
English, W. T., (54) 469, (9) 1488
Engman, M. F., (31) 598, (139) 863, (99) 1001
Enright, J. B., (47) 1488
Enslee, C. L., (140) 938
Erdmann, C. A., (46) 1000
Erdmann, J. F., (123) 1274
Eshner, A. A., (123) 142, (52) 598, (143) 863, (68) 1700
Eskridge, J. T., (77) 218, (25) 717, (28) 795, (7) 937, (18) 1000
Esmond, H. B., (153) 1063
Evans, W. A., *1176, *1674
Eve, P. F., *627
Ewald, L. A., (81) 218, (86½) 1559
Ewart, W., (39) 1205
Ewing, J., (18) 405, (69) 1139
Ewing, W. B., (69) 1700
Eyster, G. L., (131) 863
Ezell, B. S., (132) 599

Fagan, C. J., (69) 1632
Fairchild, D. S., (163) 142, (37) 468, (74) 598, *629
Fairfield, W. J., (95) 1346

Faith, T., (61) 345
Falk, J. C., (145) 863
Faller, A., (99) 1001
Fancher, H. L., (11) 1138
Farez, P., (109) 218
Farnarier, F., (110) 218
Farnum, C. G., *1721
Farrell, P. J. H., *241
Favill, H. B., (63) 937, (41) 1274
Fechheimer, M. A., (82) 141
Ferguson, E. D., (60) 1488
Ferguson, F. C., (82) 469
Ferguson, G. B., *327, (2 and 23) 468, (22) 530
Ferguson, R., (85) 1139
Ferrari, G. G., (106) 218
Findley, P., (66) 1062, (83) 1632
Finlay, C. J., *1387
Finlayson, D. W., (75) 598
Finney, F., (122) 1700
Finney, J. M. T., (55) 406, (71) 469, (25) 1727
Fisch, C., (33) 531, (45) 1559
Fischer, E., (16) 468, (23) 1138
Fischer, L., *1251, (25) 1632
Fischer, M. H., (8) 1000
Fischkin, E. A., (45) 141, (62) 1139
Fishberg, M., (21) 1345
Fisher, H. C., (142) 142
Fisher, H. M., (79) 469, (20) 1061
Fisher, W. H., (107) 1062
Fiske, J., (127) 1139
Fiske, S. A., (11) 1345
Fitch, M. E., (118) 1489
Fitch, W. E., (125) 218, (151) 1140, (49) 1274, (138) 1419
Fitzgerald, O. D., (50) 1000, (137) 1346
Flagg, C. E. B., (86) 1274
Fleming, C. K., (110) 599, (107) 1206
Fleming, H. C., (128) 1001
Fletcher, H. M., *170
Fletcher, W. B., (77) 599, (80) 862
Flexner, S., (67) 1139
Flick, L., (105) 531
Flick, L. F., (80) 531
Flint, A., (10) 140
Flippen, J. M., (162) 1701
Floeckinger, F. C., (70) 862
Floerschutz, Dr., (121) 1633
Floersheim, S., (21) 1061
Flood, E., (102) 1206
Floyd, B., (42) 1632
Flynn, H. S., (66) 1205
Foerster, F., (79) 659
Fontaine, H. T., (4) 345, (33) 1205, (11) 1273
Foote, L. H., (43) 1727
Forchheimer, F., (24) 1061
Ford, W. E., (66) 1632
Ford, W. W., (112) 863
Fordyce, J. A., (13) 345, (122) 1274
Forel, A., (83) 1274
Foshay, P. M., (101) 406, (134) 1346
Forsyth, D., (118) 938
Foster, B., (81) 346, (61) 406, *553, (121) 1206
Foster, E., (138) 407
Foster, H., (117) 469, (133) 1275
Foster, M. L., (87) 938
Foulerton, A. G. R., (28) 1345
Fowler, G. R., (19) 1205
Fowler, H. A., (127) 63
Fowler, R. S., (27) 862
Fox, R. H., (129) 1346
Foxworthy, F. W., (81) 599, (130) 1139, (16) 1727
Francis, E., (3) 1273
Francis, G. E., (30) 217
Frank, H. R., (91) 718
Frank, J., (74) 346
Frank, L., (49) 281
Frankenburger, J. M., (84) 281
Frankhauser, F. W., (114) 599, (74) 862
Frankle, B. B., (99) 1489
Fraser, H. E., (65) 531
Frazier, B. C., (46) 598, (51) 717, (46) 862
Frazier, C. H., (67) 862, (22) 1727
Frear, E. D., (41) 1062
Frederick, C. C., (115) 1559
Frederick, M. W., (111) 406
Free, J. E., (57) 717
Freeman, L., (145) 470, (108) 1206
Freeman, W. J., (79) 1345
Freer, O. T., *177
Freiberg, A. H., (92) 346
French, J. M., (39) 1138, (109) 1346
Freudenthal, W., (78) 659
Frick, W., *1590
Frick, W. J., (134) 532, (52) 1632
Fridenberg, P., (10) 937
Friedenwald, H., (89) 469, (92) 599, (159) 863, *1443
Friedenwald, J., (20) 30
Friedlaender, R., (19) 717
Friedman, L. V., (34) 1699
Fronczak, F. E., (124) 1274, (63) 1727
Frothingham, L., (67) 1559
Frutiger, A., (62) 469
Fry, F. R., (20) 717, (105) 938
Fry, H. D., (63) 406, *617
Fuetterer, G., (56) 345, (13) 658
Fuller, E., *1151, (50) 1205, (3) 1558
Fuller, W., (83) 1489
Fulton, A. L., (124) 406
Fulton, C. M., (147) 470
Fulton, F. T., (71) 218
Fulton, H. D., (22) 1345
Funk, D. S., (17) 1205
Funke, J., (20) 1418, (22) 1488
Fussell, M. H., (15) 530, (95) 531, *1287
Futcher, T. B., (1) 61, *815, (19) 530

Gaines, W. D., (137) 142
Gallant, A. E., (67) 345
Galloway, D. H., *581
Gammon, W., (29) 937
Gant, S. G., (150) 346, (86) 659, (150) 863, (108) 1139
Gàrdiner, B. F., (134) 218
Gardiner, C. F., (17) 658
Gardner, E. D., (110) 469
Gardner, F., (8) 468
Gardner, R. W., (75) 717
Garner, H. B., (69) 1418
Garrett, N. M., (41) 1632
Garrett, R. W., (106) 282, (87) 346, (74) 531
Garrigues, H. J., (26) 937
Gasser, H., (120) 1001, (151) 1419, (114) 1489
Gaston, Jr., J. McF., (86) 599
Gavin, F. W., (35) 217
Gay, G. W., (36) 1699
Gay, Jr., G. W., (42) 141
Gayle, V. W., (90) 406
Gehrung, E. C., (66) 406
Geiger, C. G., (84) 1632
Gellhorn, G., (84) 718, (65) 1062, (35) 1345, (36) 1418, (56) 1699
Gelpke, T., (117) 1700
Genella, L. J. Y., (22) 62, (133) 346
George, Jr., C., (168) 863
Gershel, M., (37) 1558
Getchell, A. C., *911
Gibb, J. S., *182
Gibbes, H., (130) 1062, (162) 1701
Gibbon, J. H., (61) 218
Gibbons, R. H., (80) 1700
Gibbs, M. D., (125) 1700
Gibson, A., (129) 1062
Gibson, C. L., (32) 1632
Gibson, J. D., (130) 1633
Giddings, W. P., (108) 141
Gies, W. J., (8) 1488, (13) 1558
Gifford, H., (115) 406
Gilbert, J. A., (16) 1699
Gilbert, R. B., (42) 1000
Gildersleeve, J. R., (46) 1559
Gillespie, R. L., (67) 659
Gillespie, W., (75) 346, (34) 1061
Gillette, A. J., (77) 346
Gillette, W. J., (32) 217, *495, (52) 1000, (92) 1001, (35) 1273
Gilliam, E. M., *113
Girsdansky, M., (63) 862
Giuliana, R. A., (24) 141
Glahn, J., (99) 1062
Glasgow, F. A., (164) 1206, (39) 1488
Glass, J. H., (29, 30) 1000
Gleason, E. B., (147) 863, (153) 938, (53) 1205
Gleason, J. H., (13) 1726
Gleitsmann, J. W., (2) 1345, (82) 1346, (15) 1726
Glendon, W. P., (131) 1419
Gloninger, A. B., (9) 1631
Gloor, A., (84) 469
Godshaw, C. C., (47) 598
Goelet, A. H., (128) 346, (33) 1273
Goffe, J. R., (29) 217
Goldan, S. O., (29) 345, (127) 1274, (17) 1727
Golden, W. W., (34) 1558
Goldspohn, A., (43) 217, *489, (99) 1206, (103) 1559
Goldstein, M. A., (84) 1346
Goldthwait, J. E., (24) 1000, (15) 1631
Gonzales, Prof., (91) 1632
Good, C., (23) 1488
Goodale, J. L., (83) 62, *192, (27) 405, (19) 1488
Goodfellow, G., (90) 1632
Gordinier, H. C., (91) 1206
Gordon, A., (4) 140, (141) 469
Gordon, O. A., (83) 718
Gordon, S. C., (152) 1275
Gordon, W. E., (37) 1699
Gorgas, W. C., (13) 795
Gorham, F. P., (111) 863
Gorhan, G. H., (51) 1699
Gossett, W. B., (59) 531
Gottheil, W. S., *21, (62) 62, *176, (15) 217, (48) 1205, (55) 1205
Gould, G. M., (7) 717, (2) 795, *1359
Gouley, J. W. S., (63) 1488
Gradwohl, R. B. H., (134) 1419
Grafft, J. A., (34) 937
Graham, A. B., (63) 281, (87) 599
Graham, D., (14) 1726
Graham, G. S., (9) 1205
Gramm, C. T., (94) 469
Grant, F. S., (98) 218
Grant, W. W., (79) 406, (52) 1345
Graves, M. L., (150) 63
Gray, A. L., (81, 117) 531, (121) 1419
Gray, E. H., (133) 599
Gray, J. H., (133) 469
Gray, Jr., J. W., (81) 1727
Gray, W. B., (37) 1061
Graybiel, A. G., (68) 1418
Grear, D. W., (163) 938, (108) 1346
Greeff, J. G. W., (82) 218, (63) 598
Greeff, R., (49) 1062
Green, C. H., (12) 1726
Green, Jr., J., (136) 863
Green, J. T., (35) 62
Green, S., (159) 938, (178) 1275
Greene, C. L., (93) 218, (9) 717, *887
Greene, R. H., (57) 281, (51) 1205, *1223
Greenleaf, C. A., (80) 1139
Greenleaf, C. R., (3) 1205
Greenleaf, J. S., (169) 1206
Greenley, T. B., (37) 1000
Greiss, W. R., (10) 717
Greiwe, J. E., (17) 530
Gremillion, C. J., (119, 120) 599
Griess, W. R., (117) 1062
Griffin, O. A., (89) 1489
Griffin, E. H., (18) 1699, (20) 1727
Griffith, F., (23) 217, (20) 658
Griffith, J. D., (92) 1274
Griffith, J. P. C., (120) 346, *440, (139) 469, (82) 1205, (117) 1274
Griggs, W. C., (30) 1699
Grindon, J., (114) 218, (115) 531, (56) 1418
Grinstead, W. F., (143) 142
Groff, G. G., (4) 1699
Grote, M. L., (163) 1206
Grothan, G., (107) 1274
Grothan, O., (106) 1632
Ground, W. E., (121) 863
Grout, D. D., (153) 1275
Guerrini, G., (31) 1558
Guiteras, J., (11) 1558
Guiteras, R., (22) 217, (36) 281, *1156
Guth, M. S., (88) 1139
Gwyer, F. W., (43) 659
Gwyn, N. B., (52) 1205

Haag, D. E., (124) 1489
Habermaas, A., (59) 659
Hackett, W. A., (94) 1062
Haggard, W. D., (110) 1001
Hale, A. B., (90) 599, *1380
Hale, J. A., (40) 468, (80) 717
Hale, W. S., (71) 531, (123) 532
Haley, W. A., (30) 1418, (38½) 1488
Hall, C. L., (100) 1346
Hall, E., (94) 1274, (137) 1275
Hall, H. L., (100) 1419
Hall, H. O., (18) 140
Hall, J. N., (5) 530, (111) 599, (26) 1418, (84) 1700
Hall, R. B., (106) 1559
Hall, R. L., *1464
Hall, W. S., (89) 346, (78) 1274, *1645
Hall, W. W., (44) 141
Hallberg, C. S. N., (93) 62
Halsey, R. H., (87) 659
Halstead, A. E., (12) 345, (69) 1727
Halsted, T. H., (67) 469
Halsted, W. S., (133) 63
Hamann, C. A., (60) 937, (92) 1419, (57) 1727
Hamburger, L. P., (25) 1727
Hamilton, E., (72) 1274
Hamilton, H. P., (146) 348
Hamlin, F. M., (103) 218, (102) 718
Hammond, L. J., (60) 862, (22) 1138
Hanawalt, H. O., (78) 62
Hance, I. H., (30) 531
Hand, Jr., A., (52) 862
Hanley, L. G., (142) 63
Hansell, H. F., (64) 345, (48) 717, (16) 861, (85) 938
Hanson, D. S., (114) 938, (74) 1138, (113) 1489
Hanson, F. A., (156) 863
Hanson, G. F., (109) 406
Hanson, R., *701
Happel, T. J., (104) 63, (121) 218, *295, *1301
Haralson, H. H., (128) 532, (165) 938
Harbert, E., (95) 1632
Hardaway, W. A., (57) 1418
Hardon, V. O., (44) 217
Hare, H. A., (8) 62, (6) 140, (74) 469
Harison, B. D., (42) 281, *1303, (42) 1488
Harlan, G. C., (101) 346
Harper, W. W., (139) 142
Harrigan, J., (76) 937
Harrington, A. L., (98) 718
Harrington, D. W., (52) 531
Harris, H. L., (134) 938
Harris, M. L., (63) 141, (58) 218
Harris, P. A., (67) 406
Harris, S., (7) 795
Harris, T. J., (109) 346, (26) 468
Harrison, E., (173) 142
Harrison, J. P., *644, (42) 937
Harrison, J. W., (54) 1274
Harrison, R. G., (114) 63
Harrison, R. H., (145) 63, (128) 282
Harrison, V., (34) 141
Harry, C. R., (108) 406
Harte, R. H., (133) 1206
Hartley, F., (55) 218
Hartwell, J. A., (35) 281
Hartwig, M., (102) 469, (53) 531
Hartzell, M. B., (99) 1139
Harvey, P. F., (27) 468
Harwood, W. E., (72) 598
Hatch, H. D., *164
Hatch, T. L, (39) 658
Hatfield, M. P., (130) 1700
Hathcock, A. L., (123) 1001
Hatton, E. M., (147) 1140
Hay, E. C., (133) 282
Hayd, H. E., (76) 141, (110) 1559
Hayden, J. R., (35) 1558
Hayem, Prof., (124) 1633
Haymore, G. P., (52) 1727
Haynes, I. S., (129) 346
Haynes, W. H., (81) 938
Hays, J. E., (33) 62
Hazen, E. H., (102) 141, (42) 345
Hazen, H. C., (32) 281
Head, G. D., (52) 141, *501, (38) 531, (47) 1000
Heald, R. J., (102) 1559
Heard, C. F., (91) 599
Hearn, W. J., (27) 345
Heath, F. C., (65) 281
Heffron, J. L., (105) 1419
Heichelheim, S., (132) 1633
Heidingsfeld, M. L., (44) 1559
Heineck, A. P., (128) 599, (116) 1001, (150) 1419
Heineman, H. N., (10) 62
Heisler, J. C., (120) 1346
Heitzman, C. W., (15) 598
Heitzmann, L., (56) 281
Hektoen, L., (90) 141, *1431
Helm, A. C., (149) 938
Henderson, C. R., (134) 1062
Hendrickson, H. W., *581
Henninger, C. H., (92) 1139
Henrotin, F., (3) 795
Henry, F. P., (23) 62
Henry, W., (60) 659
Henry, W. O., (92) 406, (90) 718
Henson, G. E., (125) 1346
Herald, J., (127) 1346
Heron, G. A., (18) 937
Herrick, C. J., (141) 1206
Herrick, J. B., (73) 62
Herring, J. H., (37) 1273
Herringham, W. P., (40) 1418
Hermann, C., (71) 1488, (25) 1699
Herter, C. A., (99) 1274
Herzog, M., (58) 218, (73) 1700
Hessler, R., (80) 599
Hewes, H. F., (3) 468
Hewitt, G. A., (107) 346
Hewlett, A. W., (26) 1632
Hickey, C. G., (6) 530, (98) 1489
Hickey, P. M., (85) 406

Higgins, F. A., (12) 1726
Hildreth, M. L., (57) 598
Hill, C. D., (16) 598
Hill, G. H., (50) 468, (53) 598, (98) 1206
Hill, H. B., (132) 282
Hill, I. W., (25) 530, (7) 1558
Hill, R. C., *199
Hill, R. S., (40) 598
Hille, H., (19) 345
Hillis, T. J., (27) 1418
Hills, D. E., (124) 1346
Hills, F. L., (103) 718
Himmelbach, G. A., (109) 1419
Hinman, E. E., (73) 531, (80) 1632
Hinsberg, V., (74) 1345
Hinsdale, G., (52) 345
Hirst, B. C., (46) 218, (46) 717
Hitzrot, J. M., (124) 63
Hoagland, H. W., (86) 1419
Hobart, A. D., (73) 659
Hobart, M. F., (11) 1726
Hobbs, A. G., (120) 218
Hoch, A., (77) 1559
Hoche, Prof., (110) 282, (113) 1419
Hodge, G., (71) 406
Hodgson, A. J., (19) 1345
Hodlmoser, C., (100) 1559
Hoenig, C., (68) 281
Hoff, J. V. R., (90) 1274
Hoisholt, A. W., (56) 1062
Hoke, M., (179) 142, (44) 717.
Holden, L. E., (87) 281
Holinger, J., (131) 469, (61) 1000, (116) 1139
Hollopeter, W. C., (11) 1699
Holmes, A. M., (105) 1206
Holmes, B., *172, *741
Holmes, E. W., (53) 469
Holmes, L. E., (5) 861
Holmes, M. S., (31) 217
Holmes, T. K., (122) 1346
Holton, H. H., (31) 1345
Homan, G., (28) 1061
Homans, J., (24) 530, (80) 659
Hooker, D. R., (102) 1274
Hoople, H. N., (16) 405, (78) 938
Hope, C. F., (115) 218
Hopkins, E. G., (36) 141
Hopkins, F. E., (24) 862, (32) 1205
Hopkins, G. G., (19) 795, (17) 937
Hopkins, H. R., (50) 531
Hopkins, S. D., (4) 530
Hopkins, T. S., (147) 1489
Hopper, J. D., (167) 63
Horne, B. S., (35) 531, (32) 795
Hornibrook, E., (125) 1560
Horsley, J. S., (162) 1206
Horton, C. L., (145) 1140
Horwitz, O., (27) 62, (45) 1205, (2) 1488, (25) 1558, (10) 1631
Hotchkiss, L. W., (54) 1488
Hough, F. S., (39) 1061
Houghton, E. M., (35) 468, (58) 469, (120) 1139
House, A. F., (94) 346
Hovions, R. D., (113) 1346
Howard, J. L., (127) 938
Howard, Jr., W. T., (104) 862, (108) 863
Howard, N. F., (140) 346, (138) 1001
Howe, H. D., (19) 1632
Howe, L., (72) 862, (82) 938
Howe, W. A., (50) 1559
Howell, J. R. G., (145) 1489
Howell, W. H., (23) 530
Howitt, H., (76) 659
Hubbard, J. C., (26) 405, (57) 862, (131) 1206
Hubbard, T. V., (134) 1001
Hubbell, A. A., (141) 1275, *1289, (64) 1488
Huber, F., (95) 938, (68) 1488
Huber, G. C., (133) 1700
Huddleston, J. H., (2) 140, (22) 795
Hudson, W. H., (119) 218
Huggard, W. R., (21) 717
Hughes, C. H., (114) 282, (112) 1419
Hughes, J. L., (166) 63
Hughes, M. R., (114) 282
Hughes, P. D., (42) 862
Hughes, W. E., (24) 62
Huizinga, J. G., (103) 346, (163) 1140, (24) 1488
Humiston, W. H., *619, (119) 1559
Hunkin, S. J., (59) 1062
Hunnicutt, J. W., (110) 63
Hunter, A., (131) 1274
Hunter, C. H., (56) 141
Hunter, J., (95) 1139
Huntington, T. W., (57) 1062
Hupp, F. LeM., (7) 1000
Hurdon, E., (89) 1700
Hurty, J. N., (96) 1062
Hutchings, W. H., (29) 1558
Hutchinson, E. B., (75) 1488
Hutchinson, R., (97) 1274
Hutchinson, W., (11) 658
Hutson, H. E., (39) 1000
Hyde, J. W., (113) 1559
Hymanson, A., (12) 717

Ikeuchi, K., (40) 717
Ill, C. L., (112) 1559
Ill, E. J., (104) 1559
Illoway, H. (12) 140
Ingalls, H. A., *29, (41) 281
Ingals, E. F., *233, (65) 937
Ingersoll, J. M., (89) 1419
Inglis, J., (132) 1001, (148) 1140
Ingraham, H. D., (114) 1559
Ingram, R., (36) 468
Ireland, R. L., (51) 281
Irvin, J. F., (33) 1727
Irwell, L., (15) 405
Irwin, F., (29) 1138
Irwin, J. W., (32) 62

Jack, E. E., (23) 1000
Jack, F. L., (15) 1061
Jack, G. N., (141) 63
Jackson, C., *371
Jackson, C. M., *731
Jackson, D., (138) 1346
Jackson, E., (21) 405, (5) 1000, *1087
Jackson, J. H., (103) 1001
Jacobi, A., (121) 282, (6) 345, (18) 530, (56) 531, (19) 598, (161, 163) 1275, (146) 1419, (66) 1488
Jacobi, F., (59) 281
Jacobs, R. H., (124) 469
Jacobson, H., (84) 659
Jacobson, J. H., (72) 659, (118) 1139
Jacoby, G. W., (63) 345
Jaeger, C. H., (11) 1418
James, J. H., (53) 141
Janson, S. A., (99) 1700
Jauregg, W. V., (94) 862
Jelks, J. L., (169) 1275
Jelliffe, S. E., (20) 1632
Jenkins, J. O., (24) 345
Jenkins, N. B., (154) 346, (10) 1000
Jepson, S. L., *1608
Jepson, W., *825
Jermain, L. J., (32) 1345
Jerome, J. N., (126) 1139
Jervey, J. W., (9) 345, (147) 1275
Jewett, C., (13) 1000
Joachim, O., (63) 1000
Johns, W. A., (125) 531
Johnson, A. B., (14) 795
Johnson, C. B., (43) 531
Johnson, H. M., (35) 1727
Johnson, J. B., (50) 345
Johnson, J. C., (71) 659
Johnson, J. L., (101) 1062
Johnson, J. S., (148) 1275
Johnson, W. B., (50) 862
Johnson, W. M., (16) 1273
Johnston, J. B., (77) 1632
Johnston, J. C., (54) 281
Johnston, W., (14) 1418
Johnston, W. W., (28) 345
Jones, A. D., (135) 1560
Jones, B. O., (144) 142, (114) 1633
Jones, C. H., (106) 531
Jones, D., (104) 1419
Jones, Dr., (152) 1206
Jones, E. A., (141) 142, (70) 659
Jones, E. P., (127) 532
Jones, F. A., *1581
Jones, I. J., (131) 599
Jones, J. R., (93) 1139
Jones, M. A. D., (6) 861
Jones, M. D., (53) 937, (120) 1206
Jones, M. F., (126) 531
Jones, J. R., *742
Jones, T., (94) 218
Jones, W., (64) 218
Jones, W. A., *1529
Jones, W. B., (58) 1727
Joslin, E. P., (66) 1559, (71) 1559
Jump, H. M., (127) 1489

Kahn, M., (32) 345
Kalteyer, F. J., (56) 862
Kammerer, F., (51) 1488
Kauffman, G. B., (107) 599
Kearney, E. F., (123) 346
Keeble, J. B., (129, 142) 1489. (128) 1633
Keen, W. W., (88) 141, (54) 218, *567
Keene, G. F., (61) 1205
Keiller, W., (143) 469
Keirle, N. G., (14) 217
Keller, J. M., (157) 282
Kelley, S. W., *155
Kellogg, J. H., (89) 862
Kellogg, T. H., (78) 1559
Kellogg, W. H., (41) 717
Kelly, A. O. J., (116) 1274
Kelly, B. C., (55) 1274
Kelly, H., (133) 1062
Kelly, H. A., (68) 345, (158) 863, (69) 1274
Kelly, J. G., (98) 282
Kelly, W. D., *500
Kelsey, E. W., (100) 1700
Kelynack, T. N., (80) 1274
Kemp, R. C., (23) 795
Kendrick, C., (112) 1489
Kenerson, V., (4) 1000
Kennedy, G. A., (77) 1345
Kerley, C. G., (48) 598, (3) 717
Kermott, C. H., (57) 141, (27) 937, (154) 1701
Kernodle, O. P., (7) 658
Kerr, A. T., (119) 63
Kerr, J. E., (171) 142
Kerr, W. W., (29) 1061
Kerruish, M. G., (47) 531
Keyes, E. D., (127) 863
Keyes, E. L., (47) 1205
Kickland, W. A., (109) 599
Kien, G., (66) 1345
Kiernan, J. G., *94, (115) 282, (42) 1345, (114) 1419, (100) 1489
Kilbourne, J., (117) 599, (149) 1701
Kirkbridge, Jr., T. S., (74) 1418
Killian, G., (67) 1345
Kime, J. W., (44) 1062, (88, 94) 1346
Kime, R. R., (113) 218, (140) 1063, (143) 1489, (129) 1633, (72) 1727
King, A. D., (90) 1062
King, A. E., (136) 1139
King, E. A., (121) 142
King, G., (13) 530
King, H. M., (18) 1138
King, W., (157) 63
King, W. P., (140) 599
Kinnaird, J. B., (47) 862
Kinsman, D. N., (92) 282
Kirkham, F. W., (146) 63
Kirkley, C. A., (64) 406
Klussman, H. A., (111) 1139
Klutzz, W. C., (124) 1419
Knapp, M. I., (31) 531, (32) 1488, (6) 1631, (6, 21) 1699
Knight, A. P., (88) 346
Knight, J. A., (135) 1001, (155) 1701
Knight, S. E., (67) 531
Knopf, S. A., (27) 217, (104) 531, (155) 863, (49) 1000, (22) 1273, (28) 1632, (112) 1633
Knott, Van B., (94) 406, (50) 1274
Knox, A. W., (188) 142, (157) 470
Knox, Jr., J. H. M., (90) 1700
Kober, G. M., (156) 938
Koch, R., *259, (12) 405, (1) 468, (108) 938
Koehler, H. H., (45) 862
Koplinski, L., (31) 1061
Kolischer, G., *1228, (79) 1489
Kollock, C. W., (149) 1206
Konikow, M. J., (24) 598
Koplik, H., (30) 405
Korner, O., (68) 1345
Kraemer, A., (134) 469
Kramer, S. P., (44) 659
Krauss, W., (111) 1001, (97) 1559
Krauss, W. C., (37) 281
Kreider, G. N., (103) 141
Kress, P. J., (78) 862
Krim, J. M., (47) 141, (49) 1632
Krouse, L. J., (34) 217
Krueger, A. G., (130) 282
Kruetzmann, H. J., (48) 218
Krusen, W., (57) 406, (149) 863, (105) 1700, (27) 1727
Kucher, J., (31) 1000
Kuder, E., (125) 406
Kuh, S., *1380
Kulp, J. S., (54) 1727
Kunkelman, D. R., (91) 1139
Kunz, S., (39) 62
Kyes, P., (132) 1700
Kyger, J. W., (74) 717, (100) 938
Kyner, D. T., (125) 469

Labadie, F. T., (159) 1140
Ladd, I. B., (129) 938
Ladd, L. W., (59) 937
Ladd, M., (93) 938
La Fetra, L. E., (70) 1488
LaFrance, W. B., (97) 469
Laird, A. T., (56) 1000
Lamb, D. S., (29) 468, (17) 1488, (30) 1632, (28) 1699, (18) 1727
Lambert, A., (59) 1488
Lancaster, W. B., (88) 469
Lancereaux, Dr., (43) 468
Landis, H. R. M., (8) 62, (6) 140
Landolt, E., (102) 346, (47) 1062
Landrith, I., (127) 1633
Landry, A., (22) 405
Lane, E. B., (29) 62
Langdon, F. W., *1105, (28) 1727
Langfeld, M., (147) 346
Lankford, J. S., (131) 282
Lanphear, E., (153, 160) 142, (150) 470, (142) 1001, (90) 1559
LaPlace, E., *949
Lapsley, R. M., (113) 141, (36) 598
Larimore, F. C., (9) 861
Lartigau, A. J., (76) 469
Latham, V. A., *86
Lathrop, H. A., (14) 1631
Lathrop, W., (61) 862
Lauder, E., (117) 938
Lavender, W. R., (105) 1632
Layne, P. C., (40) 1699
Lazear, J. W., (52) 717
Leachman, J. S., (97) 63, (75) 1205
Leadsworth, J. R., (96) 1419
Leale, M., (11) 937
Leavitt, F., *305, (65) 1727
LeBeuf, L. G., (179) 863
LeConte, R. G., (72) 345, (51) 862
LeCount, E. R., (97) 1346, *1521
Lederman, M. D., (7) 281
Lee, E., (103) 1206
Lee, E. H., (104) 718, (149) 1419
Lee, E. W., (29) 141, (155) 142, (138) 863
Leidy, C. F., (6) 1273
Leighton, M. O., (46) 1632
LeMoyne, L., (54) 345
Lenhartz, H., (87) 1001, (69) 1205
Lenhattz, H., (55) 1559
Leonard, C. L., *1451
Leonard, P. I., (85) 1632
Lerch, O., (20) 1345, (142) 1419
Leroy, L., *299, (6) 795
Lessenger, W. S., (112) 141
Leszynsky, W. M., (29) 1000
Letcher, J. H., (50) 717
Leteve, A., (56) 469
Leuf, A. H. P., (126) 938, (110) 1489
Leuschner, R., (88) 1489
Levasseur, F., (101) 282
Levien, H., (71) 862
Levin, I., (107) 863, (9) 937
Levine, P. A., (105) 862, (106) 863
Levings, A. H., (52) 218, (60) 469, (105) 718, (123) 1062, (56) 1345, (64) 1559
Leviseur, F. J., (19) 1699
Levison, C. G., (42) 717, (35) 1699
Levy, A., (118) 406
Levy, R., (28) 1138
LeWald, L. T., (110) 142
Lewis, B., (157, 158) 1206
Lewis, F. D., (26) 1488
Lewis, G. G., (89) 938
Lewis, H. E., (63) 659, (160) 1140, (118) 1346
Lewis, H. W., (189) 142, (111) 531
Lewis, R. E., (88) 1559
Lewis, T. H., (49) 717
Lewis, W. H., (130) 63, (131) 1700
Libbey, J. A., *11
Libman, E., (102) 862
Lieberthal, D., (90) 62
Liell, E. N., (144) 938
Lieser, A. M., (98) 1700
Life, J., (43) 717
Light, G. U., (29) 1632
Lilienthal, H., (159) 63, (4) 717
Lincoln, W., (84) 1418
Lindorme, C. A. F., (116) 531
Line, T. H., (111) 1489
Linhart, C. P., (103) 599
Linticum, G. M., (21) 62
Lipes, H. J., (119) 1206
Lippincott, J. A., *977
Lipscomb, W. C., (154) 1206
Lirola, A. B., (55) 937
Little, E. M., (20) 1273
Little, W. T., (78) 218
Litzenberg, J. C., (37) 531
Livingston, T. P., (103) 1274
Lloyd, Dr., (56) 1559
Lobingier, A. S., (17) 468

Lockard, L. B., (94) 1001, (110) 1700
Lodge, F. T., (82) 406
Loeb, H. W., (59) 1000, (35) 1061
Loeb, L., (96, 97) 862, *1024
Loeb, L. M., (7) 405
Lofton, L., (156) 1206, (73) 1727
Long, B. G., (77) 281
Long, F. A., (107) 1633
Long, J. W., (131) 1139
Long, M., (120) 63
Loomis, H. P., (136) 1633
Loring, D. S., (110) 1139
Loth, W. P., (121) 406
Lothrop, H. A., (31) 1699
Lott, H. S., (184) 142
Lott, M. K., (133) 1489
Louy, C., (122) 1139
Love, I. N., (160) 346, (64) 659, (154) 1140
Loveland, B. C., (23) 1273
Lovett, R. W., (15) 658, (6) 1345, (24) 1000, (3) 1631
Loving, S., (89) 282, (103) 1489
Low, H. C., (17) 1632
Lowman, W. B., (20) 468
Lubet-Baron, Dr., (173) 1275
Lueke, E. H., (46) 531
Lull, C., (132) 1206
Lund, F. B., (16) 717
Lund, G. J., (135) 1062
Lundholm, E. M., (123) 863
Longyear, H. W., (131) 142
Loring, D. J. (58) 62, (21) 795
Luria, A., (126) 142, (29) 281, (91) 406
Lusk, Dr., (57) 1559
Lusk, T. G., (48) 1727
Lutz, F. L., (35) 937
Lutz, S. H., (137) 938
Lydston, G. F., (155) 63, (39) 405, (125) 938, (44) 1205, (58) 1418, (77) 1700
Lyle D. F., (17) 530
Lynch, J. F., (41) 937
Lynds, J. G., (166) 863, (62) 1418
Lynn, F. M., (148) 142
Lyon. I. P., (53) 862

Macalester, R. K., (3) 530
MacCallum, J. B., (115) 63
MacCoy, C., (65) 345
MacDonald, A., (5) 468
MacDonald, C. F., (26) 1345
MacDonald, J. W., (62) 141
MacDonald, R. C., (10) 1558
MacDonnell, A. S., (79) 531, (161) 346
MacFarlane, A., (38) 1345, (71) 1418
MacGowan, G., (55) 281, (24) 1699
MacGugan, A., (8) 1726
MacGuillan, J. W., (100) 1632
MacKenzie, J. N., *158
Mackinnon, A., (126) 406, (112) 531
MacLeod, J. M. H., (63) 717
MacLaren, A., (66) 1727
MacMillan, J. A., (63) 1418
MacMonagle, B., (65) 406
MacMurchy, H., (128) 1062
MacPhatter, N., (110) 346, (146) 1001
Macrae, Jr., D., (5) 1138
Macwillie, J., (128) 406
McAdam, J. J., (109) 469
McArthur, L. L., (65) 141, *1162
McCalla, L. P., (81) 62, (125) 1062
McCarthy, D. J., (148) 863, (57) 1205, (27) 1345
McCaskey, G. W., (57) 345, (15) 861, (104) 1346, (19) 1727
McCassey, J. C., (17) 405
McCaw, J. F., (13) 1138, (70) 1139
McClanahan, M. M., (61) 141
McClintock, C. T., (59) 1418
McCollum, C. A., (69) 1062
McCombs, G. M., (39) 1345
McCormack, A. T., (62) 531, (44) 1139
McCormack, J. N., (50) 281, (45) 468
McCosh, A. J., *569, *621, (52) 1488
McCown, O. S., (99) 599
McCrae, J., (100) 1274, (19) 1418
McDaniel, E. D., (169) 63
McDonald, W., (76) 1062, (63) 1205
McDowell, H. F., (92) 1139
McElroy, J. B., *678
McEuen, O., (131) 532
McFarland, J., (138) 469, *1507, *1597
McGahan, C. F., *1580
McGuire, S., (48) 1559
McGinnis, R. H., (122) 218
McGraw, T. A., (18) 468, (21) 530, (6) 1061
McGee, J. B., (86) 1632
McGuire, S., (160) 1701
McHugh, P. J., (114) 346
McIlhenny, P. A., (118) 599
McIlwraith, K. C., (64) 62
McIntosh, T. M., (124) 218, (140) 1419
McIntosh, W. P., (34) 1632
McIntyre, C. W., (92) 531, (176) 1275
McKechnie, R. E., (57) 1488
McKee, A. B., (110) 406
McKeen, S. F., (31) 62
McKenty, J., (76) 1345, (17) 1558
McKenzie, A. F., (58) 1488
McKenzie, B. E., (10) 281, (13) 1061, (94) 1139, (22) 1632
McKenzie, W. W., (178) 142, (164) 347
McKernon, J. F., (53) 1559
McKinney, R., (134) 282, (101) 599
McKone, J. J., (38) 345
McLean, A., (11) 217
McLennan, S. J., (54) 1062
McLeod, J. J. R., (97) 1274
McMasters, D. M., (31) 1727
McMurchy, H., (58) 1345
McMurtry, L. S., (48) 468, (103) 938, (145) 1007, (105) 1559
McNair, R., (61) 1418
McPhedran, A., (75) 531, (83) 599
McReynolds, G. S., (171) 1275
McSwain, I. A., (97) 599, (79) 1062, (79) 1727
McVety, A. F., (88) 218, (99) 1419
Mabery, C. F., (49) 406
Macios, Prof., (91) 1632
Madden, J., (86) 862, *1648
Maercklein, F. W., (45) 406
Magill, W. S., (30) 1061
Magnus, H., (105) 346
Magruder, E. M., (74) 1559
Maher, J., *547
Mahillon, Dr., (82) 659, (131) 1346
Maier, O., (72) 1205
Main, F. W., (103) 406
Main, O. M., (102) 1419
Makuen, G. H., *438, *975, (25) 1061
Maley, W. H., (65) 1139
Mall, F. P., (123, 125, 129) 63
Mallery, G. W., (129) 469
Mallory, F. B., (117) 863
Malone, E., (147) 142
Malsch, E. A., (155) 1140
Manasse, P., (70) 1345
Manley, T. H., (154) 142, (159) 346, (2) 405, (23) 658, (137) 1001, (10) 1345, (137) 1489, (130) 1560
Mann, A. J., (127) 1560
Mann, A. T., (42) 1418, (43) 1632
Mann, F. W., (67) 218
Mann, Jr., A. H., (134) 1206
Mann, M. D., *23, (24) 281, (11) 1000
Mann, W. A., (60) 345
Manton, W. P., (23) 1061
Mapes, C. C., (43) 1274
Marcy, H. O., *550, (9) 795, (74) 1062
Marcy, M. S., (45) 1345
Marie, A., (105) 218
Markel, C. F., (94) 1206
Marlow, F. W., (95) 1274
Marple, W. B., (121) 1274
Marshall, E., (99) 531, (52) 937, (145) 1700
Marshall, I. A., (74) 281, (91) 531
Marshall, J. S., *165
Marston, D. W., (151) 142, (98, 102) 1632
Martin, C., (25) 345
Martin, C. F., (115) 863
Martin, E., (61) 1632
Martin, F. H., *426, (75) 1001
Martin, J. L., (93) 1632
Martin, T. A., (38) 1699
Marvel, E., (5) 1273
Mason, H. L., (118) 1001
Mason, J. M., (154) 1275
Mason, O., (81) 1274
Mason, R. D., (11) 405, (96) 406, (153) 863, (52) 1274
Matas, R., (14) 62, (15) 140
Matheny, R. C., (8) 861
Mathews, G. S., (70) 218
Mathews, J. M., (78) 1700
Matthey, H., (96) 63
May, C. H., (10) 658, (48) 1062
Maybury, A. W., (67) 717
Mayer, A., (7) 140
Mayer, E., (8) 530
Mayer, E. E., (25) 1138, *1601, (71) 1700
Mayhew, J. W., (73) 1001
Mayhugh, I., (72) 1001, (128) 1489
Mayne, E. H., (66) 531
Mayo, C. H., (88) 1062
Mayo, W. J., (9) 468, (73) 469, (45) 659, *1019, (94) 1419, (44) 1632
Mays, T. J., (29) 658, (29) 795
Meadow, A. E., (164) 63
Meany, W. B., (2) 598
Meara, F. S., (37) 717
Mears, J. E., (134) 346
Medbery, J., (88) 281
Meek, R. L., (75) 1727
Meierhof, E. L., (18) 658, (31) 1632
Meierowitz, P., (70) 1205
Meisenbach, A. H., (135) 1419
Meleney, C. E., (15) 281
Mellus, E. L., (116) 63
Meltzer, S. J., (6) 468, (101) 1274
Melville, E. J., (112) 63, (139) 599, (154) 938, (146) 1063
Melvin, J. T., (69) 1001, (17) 1273, (96) 1489
Mendel, L. B., (102) 1274
Mendelsohn, M., (1) 861
Meriwether, F. T., (44) 598, (134) 1139
Merriman, G., (34) 1488
Merz, A., (85) 469
Metcalf, W. B., *1605
Metcalf, W. F., (164) 863, (64) 1062
Mettler, L. H., (7) 1061, (41) 1345
Mewborn, A. D., (73) 1139
Meyer, A., (4) 1726
Meyer, P. H., (139) 63
Michaux, J., (84) 531, (40) 862
Midy, L., (61) 659
Millard, F. R., (148) 1063
Miller, B. C., (50) 218
Miller, C. C., (126) 1419
Miller, C. J., (141) 1419, (86) 1700
Miller, C. S., (74) 659, (121) 1139
Miller, D. J. M., (96) 531
Miller, G. B., (161) 863
Miller, L., (101) 1419
Millet, C. S., (34) 1138
Millman, T., (67) 1062
Mills, C. K., (54) 659, (12) 1205, (30) 1273, (76) 1559
Mills, D. K., (180) 1275
Minor, H. A., (117) 1419
Minor, J. C., (96) 346
Minor, J. L., (103) 63
Minot, C. S., (135) 1700
Minton, F. P., (89) 218
Mitchell, A. T., *246, *1520
Mitchell, E. W., (31) 141, (92) 469, (31) 862
Mitchell, S., (148) 1206
Mitchell, W. F., (123) 1419
Mitchell, W. H., (85) 1559
Mobius, J. P., (111) 1419
Moir, J., (94) 1559
Molgaard, J., (32) 1345
Monroe, G. J., (40, 48) 281, (86) 531, (33) 598, (33) 717, (27) 1000, (40) 1274, (36) 1632
Montgomery, D. W., (107) 406, (98) 1139
Montgomery, E. B., (89) 1559
Montgomery, E. E., *196, (143) 1001
Moore, A. T., (84) 1700
Moore, C. H., (102) 218
Moore, D. S., (43) 406
Moore, E. K., (23) 1558
Moore, J. E., (62) 598, (51) 1139
Moore, J. G., (142) 1700
Moore, J. H., (168) 1206
Moore, J. T., (28) 468, (117) 1001
Moore, M. L., (138) 1063
Moore, R. D., (53) 281
Moran, J. F., *615
Morel, J., (58) 1559
Morgan, F. P., (15) 1558
Morgan, W. E., (70) 62
Morrill, F. G., (13) 1631, (32) 1699
Morris, C. C., (35) 1418, (101) 1559
Morris, M., (17) 861, (19) 862, (5) 937, (16) 1000, (17) 1061, (7, 8, 27) 1138, (2, 24) 1205, (7, 21) 1273, (23, 30) 1345, (8) 1418, (15, 27) 1488
Morris, R. T., (9) 140, (156) 142, (56) 1632
Morrison, A. M., (98) 1062
Morrison, F. A., (129) 1139
Morse, J. L., *441, (28) 862, (97) 938, (81) 1205, (118) 1206, (41) 1727
Morton, A. W., (129) 142, (12) 217, (19) 468
Morton, H. H., (85) 346
Morton, T. G., (46) 1205
Moser, W., (40) 1558
Mosher, C. D., (132) 63
Mosher, J. M., (59) 1139
Mott, D. M., (164) 1275
Moulton, H., *1447
Moyer, H. N., (15) 62, (60) 406, (39) 531, (61) 717, (44) 1345, *1378, (53) 1418, *1656
Mudd, H. G., (133) 1419
Muench, O. L., (21) 658
Muehsam, R., (93) 469
Muhlberg, W. H., (32) 598
Mullen, J., (16) 62, (130) 218
Munger, C. E., (117) 1139
Munger, L. H., (35) 862
Munn, W. P., (108) 599, (55) 717
Munro, J. P., (170) 142, (109) 531
Munson, E. L., (55) 1727
Munson, S. E., (41) 531
Murdoch, F. H., (33) 468, (30) 795
Murphy, E. E., (137) 407
Murphy, J. B., (69) 62, (123) 282, (14) 598, (162) 1140, (58) 1632
Murray, D. H., (1) 1000
Murray, G. P., (69) 469
Muscroft, C. S., *29, (41) 281
Musgrove, T. W., (98) 346
Musser, J. H., (68) 598, (18) 795, *883
Mutschler, L. H., (135) 1206
Muthu, C., (22) 717
Myers, M. M., (129) 282

Nagel, W. A., (52) 1062
Nammac, C. E., (154) 863, (28) 1273
Nance, W. O., (61) 1700
Nancrede, C. B., (29) 1558
Nefe, A. A., (53) 1699
Neff, W., (91) 1559
Neilson, W. H., (96) 282
Neisser, Professor, (113) 938
Nevitt, R. B., (127) 142
Newcomb, J. E., (14) 1273
Newcomer, I., (50) 1727
Newell, E. D., (145) 1419, (135) 1633
Newhouse, S., (138) 1140
Newman, H. P., *174
Newmark, L., *1534
Newmark, P., (136) 1700
Newton, C. W., (60) 281
Newton, F. D., (88) 62
Newton, R. C., (47) 1632
Nichols, E. H., (70) 937
Nicholson, Jr., W. R., (83) 1418
Nietert, H. L., (37) 217, (21) 1727
Nimocks, R. F., (132) 1062
Nippert, L. A., (51) 1139
Noble, C. P., (122) 346, (60) 1062, (23) 1418
Noer, J., *1025
Norbury, F. P., (58) 717, *832, (133) 863, (140) 1560, *1583
Norris, C., (103) 862
Norris, R. C., (46) 717
Norris, S. C., (50) 659
Norsworthy, O. L., (147) 63
Novy, F. G., (68) 1139
Noyes, W. B., (3) 61, (14) 140, (162) 1275, (13) 1345

Oastler, F. R., (37) 598
O'Brien, L. J., (37) 1488
Ochsner, A. J., (89) 62, (124) 282, (126) 599, (78, 115) 1001, (147) 1419, (2) 1631, (57, 64) 1632
O'Donovan, C., (34) 281, (14) 861, (159) 1206
Oertel, T. E., (123) 218
Ohle, H. C., (2) 1138
Ohlmacher, A. P., (46) 62, (3) 217, *1442
Ohman-Dumesnil, A. H., (77) 531
Oliver, C. A., (104) 346, (94) 599
Oliver, J. P., (121) 1001
Ophuls, W., (69) 1559
Opie, E. L., (134) 63, (53) 406, (48) 862
Oppenheimer, S., (104) 469, (10) 530, *642, (58) 1000
O'Reilly, C., (93) 718
O'Reilly, E. B., (24) 1418
Oren, S. A., *378, (167) 1275
Ormsby, O. B., (162) 938
Orr, H. W., (101) 1632
Orr, W. H., (145) 142, (103) 1274

Osborne, A. E., (126) 469
Osborne, O. T., *863, *1652
Osler, W., (65) 62, (1) 1558
Ostheimer, M., (4) 861
Ostrander, H. G., (193) 142
Ota, Y., (36) 62
Otis, E. O., (30) 62, (19) 658
Otis, W. K., (155) 938, (6) 1726
Ott, L., *1295
Otte, J. A., (11) 530
Overholzer, M. P., (2) 717, (51) 1632
Owen, W. G., (132) 346
Owen, W. O., (36) 658, *1110, (38) 1205

Packard, F. A., (52) 862, (74) 1418, (21) 1558
Packard, F. R., (71) 141, (77) 406, *450, (28) 598, (118) 1274
Paddock, C. E., (78) 1488
Page, L., (64) 1000
Paine, A. J., (54) 937
Painter, C. F., (16) 1631, (23) 1727
Palmer, A. W., (134) 863
Palmer, C. D., (12) 62, (77) 141
Pantzer, H. O., (79) 599
Paquin, P., (158) 938
Parham, F. W., (130) 346, (151) 470
Park, R., *671, (55) 1632, (8) 1699
Park, W. H., (119) 863
Parke, T. D., (155) 1275
Parker, D. L., (2) 281
Parker, W. R., (120) 406
Parmele, G. L., *7
Parrott, J. M., (152) 863
Partridge, H. G., (60) 1205
Patrick, H. T., (27) 795, *1100, (45) 1418, *1605
Patterson, C. E., (98) 63
Patterson, F. D., (76) 406
Patterson, P. D., (58) 141
Patton, G. F., (143) 1140
Patton, G. R., (44) 1418
Patton, J. M., (55) 1345
Paulson, D., (127) 282, (152) 1419
Paxton, J. H., (78) 1727
Payne, E. D., (47) 345
Payne, F. H., (102) 1001
Payne, R., (136) 938
Payne, R. L., (177) 142
Payne, R. W., *239
Peak, J. H., (117) 1346
Pearce, F. S., *908, (19) 1061, (104) 1139, (4) 1488, (54) 1699, (70) 1700
Pearce, R. M., (116) 863
Pearse, H. E., (72) 717, (31) 795, (36) 937
Pearson, L., (11) 468
Peckham, F. E., (10) 345, (16) 530, (62) 1205, (83) 1700
Peirson, E. L., (4) 1061
Penn, G. W., (105) 63, (30) 598, (21) 1138
Pennell, W. W., (97) 218, (25) 795
Pennington, J. R., (125) 282, (125) 599, (64) 1139, (166) 1140, *1658
Pepter, W. H., (83) 659, (93) 1274
Pepper, W., (49) 862
Percival, A. S., (55) 1062
Percy, J. F., (61) 1139
Perkins, I. B., (109) 1206
Perkins, J., (59) 1205
Perkins, R. C., (108) 863
Perkins, R. G., (45) 62, (118) 863
Perry, A. W., (130) 142, (38) 717
Perry, J. F., (24) 658
Perry, M. L., (5) 1345
Peter, R., (110) 1062, (103) 1419
Peters, J. M., (58) 1205
Pettey, G. E., (157) 1275
Pettit, R. R., (149) 1140
Pfeiffer, O. J., (23) 281, (126) 1700
Pfingst, A. O., (76) 1700
Pfister, C., (11) 1061
Phelps, A. M., (151) 346, (69) 862, (67) 1205
Phelps, M. E., (103) 1139
Phelps, R. M., (43) 1418
Philbrick, I. C., (119) 142, (124) 346, (97) 406
Phillips, E., (48) 1000
Phillips, W. C., (112) 346, (85) 659, (65) 1000, (71) 1205
Pick, A., (14) 937
Pickett, W., (55) 659
Pierce, N. H., (114) 1139
Piersol, G. A., (114) 1274
Pierson, R. H., (27) 1699
Pitfield, R. L., (68) 862
Place, R. W., (150) 1275
Platt, W. B., (2) 1138
Playter, E., (86) 218
Pleth, V., (92) 62
Plumbe, E. O., (34) 1727
Poels, E., (128) 1346, (120) 163
Pokl, L., (140) 1489
Polland, C. J., (138) 599
Pollitzer, S., (54) 1418
Pool, M. M., (130) 599
Pooley, T. R., (10) 217, (12) 281
Porcher, W. P., (28) 717
Porter, C. A., (36) 1138
Porter, C. B., (46) 659
Porter, I. W., (73) 1062
Porter, M. F., (157) 142, (129) 532, (4) 795, (80) 1062, (118) 1559, (89) 1632
Porter, R. H., (32) 1000
Porter, T. P., (130) 407
Porter, W., (96) 1001
Porter, W. D., *613, (33) 937
Porter, W. G., (13) 281
Porter, W. H., (84) 1001
Portman, A. E., *978
Pothier, A. L., (141) 1140
Pottenger, F. M., (137) 469, (121) 531
Potter, J. H., (60) 1727
Potter, T., (34) 658, (175) 863
Potts, C. S., (92) 1206
Powell, F. A., (40) 1061
Power, H. D., (101) 1001
Powers, C. A., *674, (13) 1273, (92) 1489
Pratt, J. H., (77) 1418
Preble, E., (60) 1345
Preble, R. B., (66) 937, *1510
Pressey, A. J., *1292
Preston, J. W., (39) 937
Prevost, L. C., (85) 218
Price, A. D., (100) 1062
Price, J., (116) 1559
Price, M. G., (102) 63, (131) 1560
Primrose, A., (64) 717
Pritchard, D. B., (125) 1206
Pritchard, R. L., (6) 61
Pritchard, W. B., (38) 141, (187) 142, (157) 346
Probst, C. O., (90) 282, (37) 1632
Protin, C. A., (89) 406
Pryor, W. R., (69) 345, (71) 937
Pugh, T. J., (122) 1001
Pugh, W. W., (103) 282
Punton, J., (83) 281, (7) 468, (133) 532, (76) 717, (102) 1346, *1526
Purnell, J. H., (13) 468
Purviance, J. F., (88) 1632
Pusey, B., (150) 1206, (74) 1700
Pusey, W. A., *820
Putnam, J. J., (26) 62
Putnam, J. W., (11) 1205
Pyle, E. W., (66) 469, (109) 938, (77) 1203
Pynchon, E., (165) 1140, (73) 1205, (126) 1560

Quintard, E., (18) 345, (32) 405

Rachford, B. K., (9) 405, (83) 1205
Rafferty, H. N., (45) 717
Ragsdale, A. C., (135) 63, (115) 1062, (113) 1633
Randall, B. A., *575
Randall, G. M., (115) 1489
Randolph, R. L., (90) 469
Rankin, T. W., (105) 599
Ransohoff, J., (8) 405, (40) 1138
Rasbach, F. B., (138) 63
Rathmell, J. R., *641
Ratliff, T. J., (152) 63
Ravenel, M. P., (64) 862
Ravin, M., (81) 1062
Ravogli, A., *109, (11) 140
531, (34) 1418, (47) 17
Ravold, A., (88) 599, (136)
Ray, J. M., (63) 62, *1165
Ray, J. U., (165) 63
Raymond, R. Du B., (15) 120
Read, H. K., (40) 217, (53) 11
Reat, J. L., (132) 863
Reder, F., (136) 1419
Reed, B., (151) 863, (6, 15) 1000, (109) 1139
Reed, C. A. L., (135) 599
Reed, C. B., (45) 598, (60) 1139
Reed, J. H., (95) 218
Reed, R. H., (86) 1062
Reed, W., (1) 217, (7) 530, (26) 1275
Reed, W.
Regis, E.,
Reichert, E
Reid, J., (2
Reid, S. L.,
Remington, A.
Remington, J.
Remondino, P. C., (100) 1001, (136) 1275
Repp, J. J., (1) 1273, (18) 1345
Reyburn, R., (20) 141, (22) 658, (28) 1205
Reynolds, D. S., (6) 217, (62) 406, (97) 1062, (82) 1274, *1446, (35) 1632
Reynolds, E., (46) 717, (22) 862, (19) 937, (14) 1000, (125) 1274, (34) 1699
Rhein, J. H. W., (107) 1700
Rhodes, J. E., (7) 1488, (26) 1727
Rice, C. C., (129) 218
Richards, G. L., (156) 63, *242, (97) 282, (106) 469, (150) 938, (90) 1346, (128) 1419
Richards, R. H., (83) 862
Richards, W. G., (61) 469
Richardson, C. W., (119) 469
Richardson, M. H., (127) 346, (8) 795, (110) 863, (63) 1632
Richer, A. J., (12) 1061, (96) 1139
Ricketts, B. M., (33) 795, *1533, (43) 1559
Ricketts, E., (50) 62, (82) 717, (117) 1559
Riddle, W. V., (53) 345
Ridge, J. J., (92) 862
Ridlon, J., (56) 218
Riely, L. A., (134) 1560
Ries, E., (70) 345, *424, (48) 1418
Riesman, D., (16) 140, (69, 89) 141
Riggs, C. E., (106) 938, *1374
Riley, W. C., (9) 530
Rimini, E., (69) 1345
Rinehart, J. F., (158) 1275
Riseling, C. E., (160) 938
Rishmiller, J. H., (59) 1274, (48) 1699
Risinger, W. E., (26) 1000
Risley, S. D., (83) 938, (16) 1205, (96) 1206, *1513, (72) 1700
Risk, W. A., (73) 218
Robb, H., *20, (48) 62, *573, (38) 598, (81) 1001, (138) 1206, (73) 1274
Robbins, F. W., (167) 863, (50) 1699
Robbins, H. A., (139) 1275
Robbins, J. E., (104) 1206
Roberts, G. A., (41) 345
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Roberts, S. F., (86) 281
Roberts, W. O., (42) 1138, (45) 1139
Robertson, C. M., (41) 862
Robertson, J. W., (80) 346
Robertson, W. E., (68) 141, (105) 1139
Robey, Jr., W. H., (31) 405
Robin, A., (146) 863, (49) 1205
Robinovitch, L. G., (107) 218, (61) 1559
Robinson, B., (87, 91) 218, (38) 405, (144) 470, (75) 659, (115) 938, (172) 1275, (126) 1489, (9) 1699, (111) 1700, (32) 1727, (24) 1727
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Robinson, W. F., (40) 1345
Robinson, W. J., (125) 142
Robinson, W. K., (99) 218
Robison, J. A., *505, (76) 1488, *1718
Rochester, D., *1237
Rodman D., (44) 1000
(168) 142
(87) 62, (160)
18, (153) 938,
1558
Ross, C. C., (133) 938
Ross, G. G., *898
Ross, J. F. W., (24) 1418
Ross, R., *450
Ross, R. M., (97) 1001
Rotch, T. M., (30) 281, (59) 406, (84) 598, (93) 938
Rothrock, J. L., (125) 863
Roulet, A., (162) 142
Roussel, A. E., (58) 659
Roussel, J. N., (143) 1419
Rovinsky, A., (15) 1345
Roy, D., (117) 218, *377, (57) 1000, (166) 1206, (146) 1489, *1671
Royster, H. A., (192) 142, (108) 531
Rudis-Jicinsky, J., (19) 1000
Rudloff, P., (64) 469
Rudolf, R. D., (121) 938
Ruedy, R. E., (58) 937
Runyon, F. J., (100) 599, (152) 1140
Rupp, A., (5) 717, (3) 1418
Rushmore, J. D., (53) 1488
Russell, A. L., *265
Russell, F. H., (183) 142
Russell, H. L., (3) 1488
Russell, J. W., (79) 938
Russell, U. L., (68) 531
Russell, W., (81) 659
Rustin, F., (51) 659
Ruth, C. E., *1661, (140) 1700
Rutherford, J. P., (72) 1632
Ryfkogel, H. A. L., (86) 1205

Sabin, F. R., (52) 406
Sachs, B., (1) 140, (95) 141
Sailer, J., (74) 62, (47) 717, (24) 1558
Sajous, C. D., de M., (76) 598
Saliba, M. M., (32) 1345
Salmon, D. E., *508, (33) 1558, *1715
Salmon, W. T., (126) 1001
Salomonsen, L. W., (133) 1346
Samson, W. S., (86) 1346
Samuel, E. W., (63) 1274
Samuel, F. W., (47) 281
Sanders, L. A., (71) 717
Sands, T. E., (66) 1418
Sangster, C. H., (138) 1489
Sargent, A., (61) 1274
Sargent, D. A., (16) 217
Sargent, G. W., (59) 1727
Satterthwaite, T., (2) 530
Savage, G. C., (144) 1206, *1361
Sayre, R. H., (29) 1345
Schachner, A., (45) 281, (47) 468, (130) 1206, (55) 1488
Schaefer, M. C., (18) 1273
Schamberg, J. F., (66) 862, (19) 1558, (2) 1699
Schapringer, A., (67) 281
Scheerer, F., (31) 468
Schell, J. T., (21) 345
Schell, W., (129) 1274
Scheppegrell, W., (116) 599, (30) 1558
Scherck, H. J., (136) 407
Schill, Jr., F., (48) 345
Schlatter, C., (6) 717
Schmalhorst, M. D., (137) 863
Schmalzriedt, T., (84) 141, (87) 406
Schmidt, L. E., *556, *1228, (52) 1418, (131) 1489
Schneideman, T. B., (93) 599
Schneider, A., (88) 406
Schooler, M. C., (163) 63
Schott, T., (22) 141
Schram, C., (37) 345
Schrotter, Professor, (133) 218
Schulin, C., (97) 346
Schuman-Leclerq, F., (148) 346
Schumpert, T. E., (146) 1140
Schwab, S. I., (112) 1274
Schwabach, Dr., (64) 1345
Schweigger, C., (51) 1062
Schwenk, P. N. K., (100) 346
Schwerin, L. H., (152) 470
Schwyzer, F., (20) 217
Scott, A. C., (151) 63
tt, C., *830, (51) 1274
t, J. A., (26) 1061
S., (51) 62, (14) 1558
H., (92) 1062
(109) 1489
L., (93) 141, (5)
) 658, (37) 1205
H., (14) 345
(25) 217, (78)
1274
) 1726
717
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) 938
598
345
(29) 1273
1559
863

Sendzlak, J., (85) 62
Senn, E. J., (8) 717
Senn, N., (109) 141, (150) 142, (51) 218, (4) 281, (35) 598, *804, (43) 862, (165) 1206, (62) 1559, (138) 1633
Serieux, P., (110) 218
Sewall, H., (75) 469
Sexton, J. C., (173) 863
Shands, A. R., (44) 345
Shannon, J. R., (86) 346
Shaw, H. L. K., (51) 598, (79) 1632
Sheldon, J. G., (29) 405, *700, (33) 1488
Shellenberg, M., (129) 1560
Shelmire, J. B., (132) 1489
Shepherd, F. J., (122) 406
Sheppard, J. E., (70) 1418
Sherer, J. W., (8) 937
Sherman, H. C., (32) 1138
Sherman, H. M., (106) 406, *1534
Sherrill, J. G., (39) 468, (84) 1062, (4) 1273
Sherrod, D. W., (159) 470
Sherwell, S., (8) 140
Shimonek, A., (126) 863
Shoemaker, G. E., (62) 218, (47) 1345, (103) 1700
Shoemaker, J. V., (106) 346, (113, 115) 599, (90) 938, (121) 1346, (4) 1558, (123, 125) 1633
Short, W., (136) 1560
Shropshire, W., (38) 862, (153) 1140
Shumway, E. A., (83) 938
Shurly, B. R., (6) 281
Shurly, E. L., (80) 141, (5) 658
Shutt, M. T., (62) 1700
Shuttleworth, E. B., (113) 531
Sights, H. P., (161) 938
Sigman, H. G., (100) 218
Silver, M. E., (45) 1062
Simmons, C. D., (144) 1140
Simon, S., (33) 405
Simons, M., (44) 1699
Simpson, F. C., (40) 1632
Simpson, F. F., (52) 469
Simpson, F. T., (96) 938
Sinkler, W., (12) 468, (12) 861, (119) 1062, (13) 1205
Skeen, L., (74) 1559
Skelton, L. L., (122) 1062
Slack, H. R., (139) 407
Sleet, W. E., (63) 531
Sloan, W. H., (109) 1700, (62) 1727
Sloane, J. B., (111) 1206
Slusher, R. S., (33) 862
Small, A. A., (94) 718
Smeallie, J. A., (95) 1419
Smith, A. C., (4) 61
Smith, A. J., (9) 281, (55) 862, (29) 937, (32) 1558
Smith, A. L., (73) 345, (56) 1488
Smith, A. M., (141) 863, (132) 1419
Smith, A. N., (32) 1345
Smith, C. A., (61) 1062
Smith, C. P., (137) 63
Smith, E. D., (77) 1062
Smith, E. H., (128) 469
Smith, E. O., (101) 1346
Smith, F. A., (71) 1062
Smith, F. G., (75) 1062
Smith, G. F., (72) 531
Smith, J., (41) 1000
Smith, J. W., *1535, (63) 1700
Smith, Jr., E., (133) 1419
Smith, L., (82) 1062, (68) 1559
Smith, N., (27) 717
Smith, Q. C., (139) 282, (140) 1001
Smith, R. R., *645, (171) 863
Smith, S. K., (85) 1489
Smith, S. M., (29) 598, (49) 1345
Smith, W. L., (174) 1275
Smith, W. T., (69) 717
Smithwick, J. W. P., (133, 135) 142, (152, 154) 1063
Smythe, F. D., (113) 1001
Snow, I. M., (78) 1205
Snow, S. F., (106) 1419
Snydacker, E. F., (74) 1001, (51) 1418
Sobel, J., (12) 1345, (25) 1699
Solland, A., *912
Solis-Cohen, S., (78) 469
Solomon, L. L., (4, 49) 937, (49) 1488
Solomonson, S. K. A. W., (116) 1633
Somers, A. B., (118) 142, (104) 1632
Somers, J. E., (3) 1345
Somerville, W. G., (4) 405
Sontag, F., (66) 62
Souder, C. F., (100) 63
Southgate, L., (30) 141
Southworth, T. S., (31) 281
Sowder, C. R., (82) 862
Spalding, F. M., (86) 469
Spalding, H., *302
Spalding, J. L., (105) 141
Spangler, C. F., (76) 862
Spaulding, A. E., (126) 1206
Speidel, E., (60) 531
Spencer, G. W., (5) 1699
Spencer, J. C., (97) 1632
Spencer, R. H., (170) 863
Spiers, H. H., (13) 62, (171) 63, (35) 405
Spiller, W. G., (24) 62, (68) 141, (78) 469, (22) 1727
Spilman, S. A., (39) 1632
Spitzka, E. A., (108) 218, (31) 658
Spitzka, E. C., (118) 282, (31) 1273, (116) 1419
Spitzley, W. A., (25) 937
Spivak, C. D., (28) 281, (20) 717, (91) 1489
Spratling, E. J., (17) 795
Spratling, W. P., (1) 658, (20) 795, (143) 1063, (75) 1139
Spruill, J. N., (32) 1345
Stahl, F. A., (71) 1274
Stanford, L. C., (39) 345
Stanley, H. B., (101) 63, (73) 281
Stanton, D. A., (180) 142
Stapler, M. M., (133) 1633
Staples, F., (104) 282, (112) 406, (49) 531, (34) 862, (122) 1206, (135) 1489
Starkey, H. M., *1366
Starr, E. G., (91) 469
Starr, F. N. G., (75) 1345
Stealy, J. H., *265
Steele, A. J., (48) 1139
Steele, D. A. K., (79) 1001
Steele, J. D., (140) 469, (74) 1418
Steele, J. S., (81) 1345
Steeves, A. M., *97
Steiner, W. R., (88) 1700
Steinfeld, A. M., (106) 599
Stelwagon, H. W., *1389
Stengel, A., (67) 141, (72) 469, (68) 937, *1577
Stephens, T. G., (92) 938, (84) 1559
Stern, H., *256, (6) 598
Stern, W. G., (52) 62, (51) 406, (62) 937, (48) 1632
Steven, J. L., (28) 530
Stewart, D., (76) 1418
Stewart, D. D., (54) 862
Stewart, F., (98) 1001
Stewart, F. E., (30) 345
Stewart, F. T., (87) 1419
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Stewart, J. T., (128) 142
Stewart, R. W., (75) 1274, (33) 1418
Stewart, W. B., (11) 717
Stieren, E., (66) 1700
Stiles, C. W., (129) 599
Stiles, H. J., (37) 1418
Still, G. F., (39) 1418
Stillman, E. R., (54) 1000
Stirling, L. G., (123) 599
Stockton, C. G., *817, (1) 1631, (59) 1632
Stockton, G., (14) 1061
Stockwell, C. B., (131) 407, (123) 1346
Stoddard, E. V., (30) 1488
Stokes, J. E., (191) 142, (162) 346
Stokes, W. R., (56) 406
Stone, A. J., (85) 1274
Stone, D. B., (116) 1346
Stone, I. S., (39) 141
Stone, J. S., (4) 468, (20) 1488
Stone, W. A., (48) 1345
Stone, W. R., (12) 1138
Stoner, H. H., (18) 598, (43) 1345
Stout, G. C., *979
Stover, G. H., (123) 1700
Stowe, H. M., *1036
Strangways, W. F., (132) 407
Strasser, A. A., (9) 658
Strong, R. P., (54) 717
Stubbert, Dr., (56) 1559
Sturdivant, M. K., (74) 1205
Sturgis, F. R., (82) 599
Sturmdorf, A., (11) 62, (77) 469, (87) 1559
Stuver, E., (79) 218, (90) 862, (23) 1632
Sudler, M. T., (121) 63
Sudduth, W. X., (112) 282
Suggett, O. L., (92) 1559
Suker, G. F., (146) 1206, *1588
Sutton, E. M., (86) 718
Swain, H. L., (68) 469, (18) 1061, (31) 1138
Swan, J. W., (102) 1700
Sweet, M. W., (116) 406
Sweringen, H. V., (23) 345, (34) 598, (107) 1346
Swigart, I. R., (109) 1633
Swinburne, G. K., (75) 218
Syms, P., (67) 937, *1154

Taggart, H. W., (92) 1632
Talbot, E. S., *85, (116) 282, (115) 1419
Tate, M. A., (32) 862, (109) 1559, (39) 1699
Tauber, R., (131) 218
Taulbee, J. B., (78) 1062
Taussig, A. E., (144) 863
Taussig, F. J., (76) 1274
Taylor, A. E., (25) 62
Taylor, B. M., (34) 1000, (32) 1418
Taylor, C. M., (104) 1489
Taylor, E. B., (64) 937, (164) 1140
Taylor, F. L., (8) 345
Taylor, G. G., (114) 1206
Taylor, H. M., (44) 937, (137) 1419
Taylor, I. M., (185) 142, (163) 347
Taylor, J. H., (139) 1206
Taylor, J. M., (72) 1139
Taylor, L. G., (126) 346
Taylor, L. H., (117) 406
Taylor, R. T., (79) 1418
Taylor, S. B., (7) 62
Taylor, W. J., (156) 1275, (92) 1700
Taylor, W. M., (33) 281, (74) 1274
Tennent, G. S., (147) 1701
Terrett, B. A., (18) 862
Terry, H., (65) 1205
Thames, J., (169) 142, (132) 469, (110) 531
Thayer, W. S., (73) 1418
Theisen, C. F., (56) 1139
Theiberg, M. A. H., (3) 1726
Theobald, S., (2) 61
Thienhaus, O., *194
Thienhaus, C. O., (7) 1631, (68) 1727
Thistle, W. B., (153) 1206
Thomas, C. D., (123) 406
Thomas, C. P., (124) 863, (98) 1419, (141) 1700
Thomas, G. H., (9) 1345
Thomas, G. N., (81) 281
Thomas, H., (91) 1700
Thomas, H. M., (74) 1488
Thomas, J. D., (56) 1205
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Thomas, R., (70) 1632
Thomas, T. G., (33) 1632
Thomas, W. E., (22) 468
Thompson, G. H., (158) 142
Thompson, G. W., (57) 62
Thompson, H., (133) 1139
Thompson, J. A., (32) 717
Thompson, J. F., (9) 598
Thompson, J. M., (74) 1632
Thompson, S., (98) 599
Thompson, W. N., (107) 1001
Thomson, A. G., (16) 937
Thomson, St. C., (2) 861
Thomson, W., (8) 217, (16) 937
Thomson, W. H., (28) 1488
Thorn, S. S., (58) 281
Thorndike, P., (31) 1205
Thornton, G. B., (108) 63
Thornton, W. P., (72) 937
Thorpe, F. N., (65) 659
Thursfield, J. H., (41) 1205
Tibbals, F. B., (39) 1727
Tieken, T., (16) 1558
Timberman, A., (104) 599
Tinker, M. B., (160) 863
Tivnen, R. J., (103) 1346
Todd, F. C., (55) 141, (54) 1139, *1369, (76) 1727
Toepfer, A., (135) 532
Tonkin, E. W., (84) 1489
Torek, F., (86) 1001
Torian, G., (141) 346
Torrance, G., (17) 281
Towne, S. R., (58) 598
Townsend, C. W., (80) 1205
Treitel, L., (63) 469
Trent, I. N., (174) 863
Triplett, J. S., (50) 1632
Trovillion, C. E., (114) 1062
Trow, C., (95) 718
Trowbridge, E. H., (10) 405
Trudeau, E. L., (5) 140
Tubby, A. H., (40) 1205
Tucker, C. E., (123) 469
Tucker, R. O., (120) 1489
Tucker, W. G., (69) 531, (78) 1632
Tuley, H. E., (44) 862, *1182
Turck, F. B., (58) 345, *738, (62) 1632
Turner, Jr., J., (24) 795
Turner, V. E., *8
Tutschulte, E., (96) 469
Tuttle, A. S., (64) 531
Tuttle, J. P., (154) 63, (148) 938, (120) 1419
Tyler, G. E., (115) 346
Tyndale, J. H., (59) 1345
Tyson, J., (73) 406, (18) 1558

Ullman, J., (117) 142, (79) 281, [illegible] (126) 1274
Underwood, E. C., (119) 346, (140) 1140
Underwood, H. L., (22) 1205
Upman, R. H., (16) 1418
Upshur, J. N., (43) 937
Upson, C. R., (16) 345
Upson, H. S., (57) 937

Valentine, F. C., (23) 141, (158) 346
Valk, F., (89) 599
Van Benschoten, G. W., (112) 1139
Van De Warker, E., (7) 1418
Van Der Burg, C. L., (118) 1633
Van Der Poel, J., (76) 218
Vander Veer, A., (27) 281, (55) 1139
Van Doren, W. H., (131) 1001
Van Poole, G. M., (132) 1139
Van Rensselaer, H., (101) 218, (37) 1345
Van Schaick, G. G., (158) 63, (99) 282, (111) 469, (152) 938, (92) 1346, (127) 1419
Van Zaelenberg, C., (135) 346
Van Zandt, I. L., (71) 1727
Van Zant, C. B., (9) 1061, (93) 1489
Vaughan, G. T., (89) 1274, (80) 1418, (20) 1699
Vaughan, V. C., (163) 863, *877
Veasey, C. A., (18) 281, *1586
Veazie, H. E., (178) 863
Vecki, V. G., (39) 717
Veeder, M. A., (36) 345
Veidengammer, V. V., (60) 1559
Veldt, E. J., (67) 598
Vejux-Tyrode, M., (70) 1559
Venable, C. L., (103) 1062
Verhoeff, F. H., (86) 469, (145) 1275
Vietor, A. C., (21) 937
Vineberg, H. N., (63) 1062
Vinnedge, W. M., (80) 469
Vischer, C. V., (6) 658

Waddington, B. A., (48) 406
Wade, C. M., (42) 1062
Wadsworth, W. S., (68) 141
Wagner, H. L., (127) 218, (139) 938
Wahrer, C. F., *976
Waite, L., (159) 142
Wakefield, H., (7) 861
Wakefield, J. J., (34) 62
Waldauer, J., (27) 1061
Walden, E. C., (45) 1559
Waldo, R., (41) 598
Walker, A., (122) 282
Walker, D., (138) 1560
Walker, D. A., (106) 63
Walker, E., (89) 718, (172) 863, (121) 1559
Walker, G., (122) 63
Walker, H. O., (161) 142
Walker, W. K., (13) 217, (2) 1418
Wallace, H., (5) 598, (22) 1418
Walling, W. H., (111) 141, (87) 718, (128) 938, (95) 1206, (96) 1559
Wallis, J. F., (66) 862
Walls, F. X., *560
Walsh, J. J., (26) 1138, (4) 1631
Walters, F. G., (88) 1206
Walton, G. L., (62) 345
Ward, Jr., G. G., (42) 217
Ward, M. R., (62) 1000
Ward, N. G., (120) 1062
Ward, S. B., (53) 1000
Ware, M. W., (92) 141; (34) 468
Warfield, L. M., (87) 1700
Warner, L. H., (131) 346, (47) 1274, (177) 1275, (135) 1346, (99) 1632
Warren, A. E., (47) 62
Warren, J. C., (94) 62
Warren, J. N., (38) 1061
Warthin, A. S., (95) 862, (25) 937, (34) 1273, (67) 1488, (114, 134) 1700
Warwick, H. L., (125) 218
Washburn, B. A., (71) 281
Washburn, F. H., (179) 1275
Washburn, W. H., (63) 1559
Waterman, J. H., (11) 1418
Waterman, O., (29) 1418

Osborne, A. E., (126) 469
Osborne, O. T., *863, *1652
Osler, W., (65) 62, (1) 1558
Ostheimer, M., (4) 861
Ostrander, H. G., (193) 142
Ota, Y., (36) 62
Otis, E. O., (30) 62, (19) 658
Otis, W. K., (155) 938, (6) 1726
Ott, L., *1295
Otte, J. A., (11) 530
Overholzer, M. P., (2) 717, (51) 1632
Owen, W. G., (132) 346
Owen, W. O., (36) 658, *1110, (38) 1205

Packard, F. A., (52) 862, (74) 1418, (21) 1558
Packard, F. R., (71) 141, (77) 406, *450, (28) 598, (118) 1274
Paddock, C. E., (78) 1488
Page, L., (64) 1000
Paine, A. J., (54) 937
Painter, C. F., (16) 1631, (23) 1727
Palmer, A. W., (134) 863
Palmer, C. D., (12) 62, (77) 141
Pantzer, H. O., (79) 599
Paquin, P., (158) 938
Parham, F. W., (130) 346, (151) 470
Park, R., *671, (55) 1632, (8) 1699
Park, W. H., (119) 863
Parke, T. D., (155) 1275
Parker, D. L., (2) 281
Parker, W. R., (120) 406
Parmele, G. L., *7
Parrott, J. M., (152) 863
Partridge, H. G., (60) 1205
Patrick, H. T., (27) 795, *1100, (45) 1418, *1605
Patterson, C. E., (98) 63
Patterson, F. D., (76) 406
Patterson, P. D., (58) 141
Patton, G. F., (143) 1140
Patton, G. R., (44) 1418
Patton, J. M., (55) 1345
Paulson, D., (127) 282, (152) 1419
Paxton, J. H., (78) 1727
Payne, E. D., (47) 345
Payne, F. H., (102) 1001
Payne, R., (136) 938
Payne, R. L., (177) 142
Payne, R. W., *239
Peak, J. H., (117) 1346
Pearce, F. S., *908, (19) 1061, (104) 1139, (4) 1488, (54) 1699, (70) 1700
Pearce, R. M., (116) 863
Pearse, H. E., (72) 717, (31) 795, (36) 937
Pearson, L., (11) 468
Peckham, F. E., (10) 345, (16) 530, (62) 1205, (83) 1700
Peirson, E. L., (4) 1061
Penn, G. W., (105) 63, (30) 598, (21) 1138
Pennell, W. W., (97) 218, (25) 795
Pennington, J. R., (125) 282, (125) 599, (64) 1139, (166) 1140, *1658
Pepter, W. H., (83) 659, (93) 1274
Pepper, W., (49) 862
Percival, A. S., (55) 1062
Percy, J. F., (61) 1139
Perkins, I. B., (109) 1206
Perkins, J., (59) 1205
Perkins, R. C., (108) 863
Perkins, R. G., (45) 62, (118) 863
Perry, A. W., (130) 142, (38) 717
Perry, J. F., (24) 658
Perry, M. L., (5) 1345
Peter, R., (110) 1062, (103) 1419
Peters, J. M., (58) 1205
Pettey, G. E., (157) 1275
Pettit, R. R., (149) 1140
Pfeiffer, O. J., (23) 281, (126) 1700
Pfingst, A. O., (76) 1700
Pfister, C., (11) 1061
Phelps, A. M., (151) 346, (69) 862, (67) 1205
Phelps, M. E., (103) 1139
Phelps, R. M., (43) 1418
Philbrick, I. C., (119) 142, (124) 346, (97) 406
Phillips, E., (48) 1000
Phillips, W. C., (112) 346, (85) 659, (65) 1000, (71) 1205
Pick, A., (14) 937
Pickett, W., (55) 659
Pierce, N. H., (114) 1139
Piersol, G. A., (114) 1274
Pierson, R. H., (27) 1699
Pitfield, R. L., (68) 862
Place, R. W., (150) 1275
Platt, W. B., (2) 1138
Playter, E., (86) 218
Pleth, V., (92) 62
Plumbe, E. O., (34) 1727
Poels, E., (128) 1346, (120) 163
Pokl, L., (140) 1489
Polland, C. J., (138) 599
Pollitzer, S., (54) 1418
Pool, M. M., (130) 599
Pooley, T. R., (10) 217, (12) 281
Porcher, W. P., (28) 717
Porter, C. A., (36) 1138
Porter, C. B., (46) 659
Porter, I. W., (73) 1062
Porter, M. F., (157) 142, (129) 532, (4) 795, (80) 1062, (118) 1559, (89) 1632
Porter, R. H., (32) 1000
Porter, T. P., (130) 407
Porter, W., (96) 1001
Porter, W. D., *613, (33) 937
Porter, W. G., (13) 281
Porter, W. H., (84) 1001
Portman, A. E., *978
Pothier, A. L., (141) 1140
Pottenger, F. M., (137) 469, (121) 531
Potter, J. H., (60) 1727
Potter, T., (34) 658, (175) 863
Potts, C. S., (92) 1206
Powell, F. A., (40) 1061
Power, H. D., (101) 1001
Powers, C. A., *674, (13) 1273, (92) 1489
Pratt, J. H., (77) 1418
Preble, E., (60) 1345
Preble, R. B., (66) 937, *1510
Pressey, A. J., *1292
Preston, J. W., (39) 937
Prevost, L. C., (85) 218
Price, A. D., (100) 1062
Price, J., (116) 1559
Price, M. G., (102) 63, (131) 1560
Primrose, A., (64) 717
Pritchard, D. B., (125) 1206
Pritchard, R. L., (6) 61
Pritchard, W. B., (38) 141, (187) 142, (157) 346
Probst, C. O., (90) 282, (37) 1632
Protin, C. A., (89) 406
Pryor, W. R., (69) 345, (71) 937
Pugh, T. J., (122) 1001
Pugh, W. W., (103) 282
Punton, J., (83) 281, (7) 468, (133) 532, (76) 717, (102) 1346, *1526
Purnell, J. H., (13) 468
Purviance, J. F., (88) 1632
Pusey, B., (150) 1206, (74) 1700
Pusey, W. A., *820
Putnam, J. J., (26) 62
Putnam, J. W., (11) 1205
Pyle, E. W., (66) 469, (109) 938, (77) 1203
Pynchon, E., (165) 1140, (73) 1205, (126) 1560

Quintard, E., (18) 345, (32) 405

Rachford, B. K., (9) 405, (83) 1205
Rafferty, H. N., (45) 717
Ragsdale, A. C., (135) 63, (115) 1062, (113) 1633
Randall, B. A., *575
Randall, G. M., (115) 1489
Randolph, R. L., (90) 469
Rankin, T. W., (105) 599
Ransohoff, J., (8) 405, (40) 1138
Rasbach, F. B., (138) 63
Rathmell, J. R., *641
Ratliff, T. J., (152) 63
Ravenel, M. P., (64) 862
Ravin, M., (81) 1062
Ravogli, A., *109, (11) 140, (44) 531, (34) 1418, (47) 1727
Ravold, A., (88) 599, (136) 1001
Ray, J. M., (63) 62, *1165
Ray, J. U., (165) 63
Raymond, R. Du B., (15) 1205
Read, H. K., (40) 217, (53) 1139
Reat, J. L., (132) 863
Reder, F., (136) 1419
Reed, B., (151) 863, (6, 15) 1000, (109) 1139
Reed, C. A. L., (135) 599
Reed, C. B., (45) 598, (60) 1139
Reed, J. H., (95) 218
Reed, R. H., (86) 1062
Reed, W., (1) 217, (7) 530, (26) 1273
Reed, W. W., (78) 406
Regis, E., (59) 1559
Reichert, E. T., (70) 141
Reid, J., (29) 531
Reid, S. L., (43) 1000
Remington, A. H., (75) 406
Remington, J. P., (107) 141
Remondino, P. C., (100) 1001, (136) 1275
Repp, J. J., (1) 1273, (18) 1345
Reyburn, R., (20) 141, (22) 658, (28) 1205
Reynolds, D. S., (6) 217, (62) 406, (97) 1062, (82) 1274, *1446, (35) 1632
Reynolds, E., (46) 717, (22) 862, (19) 937, (14) 1000, (125) 1274, (34) 1699
Rhein, J. H. W., (107) 1700
Rhodes, J. E., (7) 1488, (26) 1727
Rice, C. C., (129) 218
Richards, G. L., (156) 63, *242, (97) 282, (106) 469, (150) 938, (90) 1346, (128) 1419
Richards, R. H., (83) 862
Richards, W. G., (61) 469
Richardson, C. W., (119) 469
Richardson, M. H., (127) 346, (8) 795, (110) 863, (63) 1632
Richer, A. J., (12) 1061, (96) 1139
Ricketts, B. M., (33) 795, *1533, (43) 1559
Ricketts, E., (50) 62, (82) 717, (117) 1559
Riddle, W. V., (53) 345
Ridge, J. J., (92) 862
Ridlon, J., (56) 218
Riely, L. A., (134) 1560
Ries, E., (70) 345, *424, (48) 1418
Riesman, D., (16) 140, (69, 89) 141
Riggs, C. E., (106) 938, *1374
Riley, W. C., (9) 530
Rimini, E., (69) 1345
Rinehart, J. F., (158) 1275
Riseling, C. E., (160) 938
Rishmiller, J. H., (59) 1274, (48) 1699
Risinger, W. E., (26) 1000
Risley, S. D., (83) 938, (16) 1205, (96) 1206, *1513, (72) 1700
Risk, W. A., (73) 218
Robb, H., *20, (48) 62, *573, (38) 598, (81) 1001, (138) 1206, (73) 1274
Robbins, F. W., (167) 863, (50) 1699
Robbins, H. A., (139) 1275
Robbins, J. E., (104) 1206
Roberts, G. A., (41) 345
Roberts, J. B., (47) 659, (20) 1138, (104) 1700
Roberts, J. G., (106) 1274, (5) 1488
Roberts, S. F., (86) 281
Roberts, W. O., (42) 1138, (45) 1139
Robertson, C. M., (41) 862
Robertson, J. W., (80) 346
Robertson, W. E., (68) 141, (105) 1139
Robey, Jr., W. H., (31) 405
Robin, A., (146) 863, (49) 1205
Robinovitch, L. G., (107) 218, (61) 1559
Robinson, B., (87, 91) 218, (38) 405, (144) 470, (75) 659, (115) 938, (172) 1275, (126) 1489, (9) 1699, (111) 1700, (32) 1727, (24) 1727
Robinson, D. A., (113) 406, (108) 1001
Robinson, E. F., (119) 1274
Robinson, F. J., (111) 1633
Robinson, W. F., (40) 1345
Robinson, W. J., (125) 142
Robinson, W. K., (99) 218
Robison, J. A., *505, (76) 1488, *1718
Rochester, D., *1237
Rodman, H. D., (44) 1000
Rodman, J. C., (168) 142
Rodman, W. L., (87) 62, (160) 63, (59) 218, (153) 938, (119) 1346, (12) 1558
Rogers, J. G., (128) 1139
Rogers, J. T., (67) 1727
Rogers, T. A., (30) 658
Rolls, J. A., *1319
Rooney, K., (34) 1345
Roosa, D. B. St. J., (72) 1205, (29) 1488
Roosa, Dr., (88) 659
Root, A. G., (67) 1001
Root, E. H., (102) 1139, (57) 1345
Rose, A., (12) 530, (85, 90) 1001
Rosenau, M. J., (102) 938
Rosenberg, A., (120) 531
Rosenberg, L. J., (155) 346
Rosenberger, R. C., (17) 62
Rosenstirn, J., (36) 1558
Rosenthal, E., (38) 62, (170) 63, (166) 142, *443, (83) 1001
Rosenwasser, M., (111, 120) 1559
Ross, C. C., (133) 938
Ross, G. G., *898
Ross, J. F. W., (24) 1418
Ross, R., *450
Ross, R. M., (97) 1001
Rotch, T. M., (30) 281, (59) 406, (84) 598, (93) 938
Rothrock, J. L., (125) 863
Roulet, A., (162) 142
Roussel, A. E., (58) 659
Roussel, J. N., (143) 1419
Rovinsky, A., (15) 1345
Roy, D., (117) 218, *377, (57) 1000, (166) 1206, (146) 1489, *1671
Royster, H. A., (192) 142, (108) 531
Rudis-Jicinsky, J., (19) 1000
Rudloff, P., (64) 469
Rudolf, R. D., (121) 938
Ruedy, R. E., (58) 937
Runyon, F. J., (100) 599, (152) 1140
Rupp, A., (5) 717, (3) 1418
Rushmore, J D., (53) 1488
Russell, A. L., *265
Russell, F. H., (183) 142
Russell, H. L., (3) 1488
Russell, J. W., (79) 938
Russell, U. L., (68) 531
Russell, W., (81) 659
Rustin, F., (51) 659
Ruth, C. E., *1661, (140) 1700
Rutherford, J. P., (72) 1632
Ryfkogel, H. A. L., (86) 1205

Sabin, F. R., (52) 406
Sachs, B., (1) 140, (95) 141
Sailer, J., (74) 62, (47) 717, (24) 1558
Sajous, C. D., de M., (76) 598
Saliba, M. M., (32) 1345
Salmon, D. E., *508, (33) 1558, *1715
Salmon, W. T., (126) 1001
Salomonsen, L. W., (133) 1346
Samson, W. S., (86) 1346
Samuel, E. W., (63) 1274
Samuel, F. W., (47) 281
Sanders, L. A., (71) 717
Sands, T. E., (66) 1418
Sangster, C. H., (138) 1489
Sargent, A., (61) 1274
Sargent, D. A., (16) 217
Sargent, G. W., (59) 1727
Satterthwaite, T., (2) 530
Savage, G. C., (144) 1206, *1361
Sayre, R. H., (29) 1345
Schachner, A., (45) 281, (47) 468, (130) 1206, (55) 1488
Schaefer, M. C., (18) 1273
Schamberg, J. F., (66) 862, (19) 1558, (2) 1699
Schapringer, A., (67) 281
Scheerer, F., (31) 468
Schell, J. T., (21) 345
Schell, W., (129) 1274
Scheppegrell, W., (116) 599, (30) 1558
Scherck, H. J., (136) 407
Schill, Jr., F., (48) 345
Schlatter, C., (6) 717
Schmalhorst, M. D., (137) 863
Schmalzriedt, T., (84) 141, (87) 406
Schmidt, L. E., *556, *1228, (52) 1418, (131) 1489
Schneideman, T. B., (93) 599
Schneider, A., (88) 406
Schooler, M. C., (163) 63
Schott, T., (22) 141
Schram, C., (37) 345
Schrotter, Professor, (133) 218
Schulin, C., (97) 346
Schuman-Leclerq, F., (148) 346
Schumpert, T. E., (146) 1140
Schwab, S. I., (112) 1274
Schwabach, Dr., (64) 1345
Schweigger, C., (51) 1062
Schwenk, P. N. K., (100) 346
Schwerin, L. H., (152) 470
Schwyzer, F., (20) 217
Scott, A. C., (151) 63
Scott, C., *830, (51) 1274
Scott, J. A., (26) 1061
Scott, N. S., (51) 62, (14) 1558
Scott, S. H., (92) 1062
Scruggs, S., (109) 1489
Scudder, C. L., (93) 141, (5) 345, (41) 658, (37) 1205
Seabrook, H. H., (14) 345
Seaman, L. L., (25) 217, (78) 346, (88) 1274
Sears, G. G., (10) 1726
Seba, J. D., (77) 717
Sebastian, C. M., (102) 599
Secord, E. R., (119) 938
Seibert, A., (50) 598
Seibert, W. H., (55) 345
Seiler, C., (29) 717, (29) 1273
Semidalow, B. I., (60) 1559
Senkler, G. E., (122) 863

Sendziak, J., (85) 62
Senn, E. J., (8) 717
Senn, N., (109) 141, (150) 142, (51) 218, (4) 281, (35) 598, *804, (43) 862, (165) 1206, (62) 1559, (138) 1633
Serieux, P., (110) 218
Sewall, H., (75) 469
Sexton, J. C., (173) 863
Shands, A. R., (44) 345
Shannon, J. R., (86) 346
Shaw, H. L. K., (51) 598, (79) 1632
Sheldon, J. G., (29) 405, *700, (33) 1488
Shellenberg, M., (129) 1560
Shelmire, J. B., (132) 1489
Shepherd, F. J., (122) 406
Sheppard, J. E., (70) 1418
Sherer, J. W., (8) 937
Sherman, H. C., (32) 1138
Sherman, H. M., (106) 406, *1534
Sherrill, J. G., (39) 468, (84) 1062, (4) 1273
Sherrod, D. W., (159) 470
Sherwell, S., (8) 140
Shimonek, A., (126) 863
Shoemaker, G. E., (62) 218, (47) 1345, (103) 1700
Shoemaker, J. V., (106) 346, (113, 115) 599, (90) 938, (121) 1346, (4) 1558, (123, 125) 1633
Short, W., (136) 1560
Shropshire, W., (38) 862, (153) 1140
Shumway, E. A., (83) 938
Shurly, B. R., (6) 281
Shurly, E. L., (80) 141, (5) 658
Shutt, M. T., (62) 1700
Shuttleworth, E. B., (113) 531
Sights, H. P., (161) 938
Sigman, H. G., (100) 218
Silver, M. E., (45) 1062
Simmons, C. D., (144) 1140
Simon, S., (33) 405
Simons, M., (44) 1699
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Simpson, F. F., (52) 469
Simpson, F. T., (96) 938
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Skeen, L., (74) 1559
Skelton, L. L., (122) 1062
Slack, H. R., (139) 407
Sleet, W. E., (63) 531
Sloan, W. H., (109) 1700, (62) 1727
Sloane, J. B., (111) 1206
Slusher, R. S., (33) 862
Small, A. A., (94) 718
Smeallie, J. A., (95) 1419
Smith, A. C., (4) 61
Smith, A. J., (9) 281, (55) 862, (29) 937, (32) 1558
Smith, A. L., (73) 345, (56) 1488
Smith, A. M., (141) 863, (132) 1419
Smith, A. N., (32) 1345
Smith, C. A., (61) 1062
Smith, C. P., (137) 63
Smith, E. D., (77) 1062
Smith, E. H., (128) 469
Smith, E. O., (101) 1346
Smith, F. A., (71) 1062
Smith, F. G., (75) 1062
Smith, G. F., (72) 531
Smith, J., (41) 1000
Smith, J. W., *1535, (63) 1700
Smith, Jr., E., (133) 1419
Smith, L., (82) 1062, (68) 1559
Smith, N., (27) 717
Smith, Q. C., (139) 282, (140) 1001
Smith, R. R., *645, (171) 863
Smith, S. K., (85) 1489
Smith, S. M., (29) 598, (49) 1345
Smith, W. L., (174) 1275
Smith, W. T., (69) 717
Smithwick, J. W. P., (133, 135) 142, (152, 154) 1063
Smythe, F. D., (113) 1001
Snow, I. M., (78) 1205
Snow, S. F., (106) 1419
Snydacker, E. F., (74) 1001, (51) 1418
Sobel, J., (12) 1345, (25) 1699
Soiland, A., *912
Solis-Cohen, S., (78) 469
Solomon, L. L., (4, 49) 937, (49) 1488
Solomonson, S. K. A. W., (116) 1633
Somers, A. B., (118) 142, (104) 1632
Somers, J. E., (3) 1345
Somerville, W. G., (4) 405
Sontag, F., (66) 62
Souder, C. F., (100) 63
Southgate, L., (30) 141
Southworth, T. S., (31) 281
Sowder, C. R., (82) 862
Spalding, F. M., (86) 469
Spalding, H., *302
Spalding, J. L., (105) 141
Spangler, C. F., (76) 862
Spaulding, A. E., (126) 1206
Speidel, E., (60) 531
Spencer, G. W., (5) 1699
Spencer, J. C., (97) 1632
Spencer, R. H., (170) 863
Spiers, H. H., (13) 62, (171) 63, (35) 405
Spiller, W. G., (24) 62, (68) 141, (78) 469, (22) 1727
Spilman, S. A., (39) 1632
Spitzka, E. A., (108) 218, (31) 658
Spitzka, E. C., (118) 282, (31) 1273, (116) 1419
Spitzley, W. A., (25) 937
Spivak, C. D., (28) 281, (26) 717, (91) 1489
Spratling, E. J., (17) 795
Spratling, W. P., (1) 658, (20) 795, (143) 1063, (75) 1139
Spruill, J. N., (32) 1345
Stahl, F. A., (71) 1274
Stanford, L. C., (39) 345
Stanley, H. B., (101) 63, (73) 281
Stanton, D. A., (180) 142
Stapler, M. M., (133) 1633
Staples, F., (104) 282, (112) 406, (49) 531, (34) 862, (122) 1206, (135) 1489
Starkey, H. M., *1366
Starr, E. G., (91) 469
Starr, F. N. G., (75) 1345
Stealy, J. H., *265
Steele, A. J., (48) 1139
Steele, D. A. K., (79) 1001
Steele, J. D., (140) 469, (74) 1418
Steele, J. S., (81) 1345
Steeves, A. M., *97
Steiner, W. R., (88) 1700
Steinfeld, A. M., (106) 599
Stelwagon, H. W., *1389
Stengel, A., (67) 141, (72) 469, (68) 937, *1577
Stephens, T. G., (92) 938, (84) 1559
Stern, H., *256, (6) 598
Stern, W. G., (52) 62, (51) 406, (62) 937, (48) 1632
Steven, J. L., (28) 530
Stewart, D., (76) 1418
Stewart, D. D., (54) 862
Stewart, F., (98) 1001
Stewart, F. E., (30) 345
Stewart, F. T., (87) 1419
Stewart, J. C., (60) 598, (37) 658
Stewart, J. T., (128) 142
Stewart, R. W., (75) 1274, (33) 1418
Stewart, W. B., (11) 717
Stieren, E., (66) 1700
Stiles, C. W., (129) 599
Stiles, H. J., (37) 1418
Still, G. F., (39) 1418
Stillman, E. R., (54) 1000
Stirling, L. G., (123) 599
Stockton, C. G., *817, (1) 1631, (59) 1632
Stockton, G., (14) 1061
Stockwell, C. B., (131) 407, (123) 1346
Stoddard, E. V., (30) 1488
Stokes, J. E., (191) 142, (162) 346
Stokes, W. R., (56) 406
Stone, A. J., (85) 1274
Stone, D. B., (116) 1346
Stone, I. S., (39) 141
Stone, J. S., (4) 468, (20) 1488
Stone, W. A., (48) 1345
Stone, W. R., (12) 1138
Stoner, H. H., (18) 598, (43) 1345
Stout, G. C., *979
Stover, G. H., (123) 1700
Stowe, H. M., *1036
Strangways, W. F., (132) 407
Strasser, A. A., (9) 658
Strong, R. P., (54) 717
Stubbert, Dr., (56) 1559
Sturdivant, M. K., (74) 1205
Sturgis, F. R., (82) 599
Sturmdorf, A., (11) 62, (77) 469, (87) 1559
Stuver, E., (79) 218, (90) 862, (23) 1632
Sudler, M. T., (121) 63
Sudduth, W. X., (112) 282
Suggett, O. L., (92) 1559
Suker, G. F., (146) 1206, *1588
Sutton, E. M., (86) 718
Swain, H. L., (68) 469, (18) 1061, (31) 1138
Swan, J. W., (102) 1700
Sweet, M. W., (116) 406
Sweringen, H. V., (23) 345, (34) 598, (107) 1346
Swigart, I. R., (109) 1633
Swinburne, G. K., (75) 218
Syms, P., (67) 937, *1154

Taggart, H. W., (92) 1632
Talbot, E. S., *85, (116) 282, (115) 1419
Tate, M. A., (32) 862, (109) 1559, (39) 1699
Tauber, B., (131) 218
Taulbee, J. B., (78) 1062
Taussig, A. E., (144) 863
Taussig, F. J., (76) 1274
Taylor, A. E., (25) 62
Taylor, B. M., (34) 1000, (32) 1418
Taylor, C. M., (104) 1489
Taylor, E. B., (64) 937, (164) 1140
Taylor, F. L., (8) 345
Taylor, G. G., (114) 1206
Taylor, H. M., (44) 937, (137) 1419
Taylor, I. M., (185) 142, (163) 347
Taylor, J. H., (139) 1206
Taylor, J. M., (72) 1139
Taylor, L. G., (126) 346
Taylor, L. H., (117) 406
Taylor, R. T., (79) 1418
Taylor, S. B., (7) 62
Taylor, W. J., (156) 1275, (92) 1700
Taylor, W. M., (33) 281, (74) 1274
Tennent, G. S., (147) 1701
Terrett, B. A., (18) 862
Terry, H., (65) 1205
Thames, J., (169) 142, (132) 469, (110) 531
Thayer, W. S., (73) 1418
Theisen, C. F., (56) 1139
Thelberg, M. A. H., (3) 1726
Theobald, S., (2) 61
Thienhaus, O., *194
Thienhaus, C. O., (7) 1631, (68) 1727
Thistle, W. B., (153) 1206
Thomas, C. D., (123) 406
Thomas, C. P., (124) 863, (98) 1419, (141) 1700
Thomas, G. H., (9) 1345
Thomas, G. N., (81) 281
Thomas, H., (91) 1700
Thomas, H. M., (74) 1488
Thomas, J. D., (56) 1205
Thomas, J. J., (45) 531, (113) 863, (1) 1061
Thomas, R., (70) 1632
Thomas, T. G., (33) 1632
Thomas, W. E., (22) 468
Thompson, G. H., (158) 142
Thompson, G. W., (57) 62
Thompson, H., (133) 1139
Thompson, J. A., (32) 717
Thompson, J. F., (9) 598
Thompson, J. M., (74) 1632
Thompson, S., (98) 599
Thompson, W. N., (107) 1001
Thomson, A. G., (16) 937
Thomson, St. C., (2) 861
Thomson, W., (8) 217, (16) 937
Thomson, W. H., (28) 1488
Thorn, S. S., (58) 281
Thorndike, P., (31) 1205
Thornton, G. B., (108) 63
Thornton, W. P., (72) 937
Thorpe, F. N., (65) 659
Thursfield, J. H., (41) 1205
Tibbals, F. B., (39) 1727
Tieken, T., (16) 1558
Timberman, A., (104) 599
Tinker, M. B., (160) 863
Tivnen, R. J., (103) 1346
Todd, F. C., (55) 141, (54) 1139, *1369, (76) 1727
Toepfer, A., (135) 532
Tonkin, E. W., (84) 1489
Torek, F., (86) 1001
Torian, G., (141) 346
Torrance, G., (17) 281
Towne, S. R., (58) 598
Townsend, C. W., (80) 1205
Treitel, L., (63) 469
Trent, I. N., (174) 863
Triplett, J. S., (50) 1632
Trovillion, C. E., (114) 1062
Trow, C., (95) 718
Trowbridge, E. H., (10) 405
Trudeau, E. L., (5) 140
Tubby, A. H., (40) 1205
Tucker, C. E., (123) 469
Tucker, R. O., (120) 1489
Tucker, W. G., (69) 531, (78) 1632
Tuley, H. E., (44) 862, *1182
Turck, F. B., (58) 345, *738, (62) 1632
Turner, Jr., J., (24) 795
Turner, V. E., *8
Tutschulte, E., (96) 469
Tuttle, A. S., (64) 531
Tuttle, J. P., (154) 63, (148) 938, (129) 1419
Tyler, G. E., (115) 346
Tyndale, J. H., (59) 1345
Tyson, J., (73) 406, (18) 1558

Ullman, J., (117) 142, (79) 281, [illegible], (126) 1274
Underwood, E. C., (119) 346, (140) 1140
Underwood, H. L., (22) 1205
Upman, R. H., (16) 1418
Upshur, J. N., (43) 937
Upson, C. R., (16) 345
Upson, H. S., (57) 937

Valentine, F. C., (23) 141, (158) 346
Valk, F., (89) 599
Van Benschoten, G. W., (112) 1139
Van De Warker, E., (7) 1418
Van Der Burg, C. L., (118) 1633
Van Der Poel, J., (76) 218
Vander Veer, A., (27) 281, (55) 1139
Van Doren, W. H., (131) 1001
Van Poole, G. M., (132) 1139
Van Rensselaer, H., (101) 218, (37) 1345
Van Schaick, G. G., (158) 63, (99) 282, (111) 469, (152) 938, (92) 1346, (127) 1419
Van Zaelenberg, C., (135) 346
Van Zandt, I. L., (71) 1727
Van Zant, C. B., (9) 1061, (93) 1489
Vaughan, G. T., (89) 1274, (80) 1418, (20) 1699
Vaughan, V. C., (163) 863, *877
Veasey, C. A., (18) 281, *1586
Veazie, H. E., (178) 863
Vecki, V. G., (39) 717
Veeder, M. A., (36) 345
Veidengammer, V. V., (60) 1559
Veidt, E. J., (67) 598
Vejux-Tyrode, M., (70) 1559
Venable, C. L., (103) 1062
Verhoeff, F. H., (86) 469, (145) 1275
Vietor, A. C., (21) 937
Vineberg, H. N., (63) 1062
Vinnedge, W. M., (80) 469
Vischer, C. V., (6) 658

Waddington, B. A., (48) 406
Wade, C. M., (42) 1062
Wadsworth, W. S., (68) 141
Wagner, H. L., (127) 218, (139) 938
Wahrer, C. F., *976
Waite, L., (159) 142
Wakefield, H., (7) 861
Wakefield, J. J., (34) 62
Waldauer, J., (27) 1061
Walden, E. C., (45) 1559
Waldo, R., (41) 598
Walker, A., (122) 282
Walker, D., (138) 1560
Walker, D. A., (106) 63
Walker, E., (89) 718, (172) 863, (121) 1559
Walker, G., (122) 63
Walker, H. O., (161) 142
Walker, W. K., (13) 217, (2) 1418
Wallace, H., (5) 598, (22) 1418
Walling, W. H., (111) 141, (87) 718, (128) 938, (95) 1206, (96) 1559
Wallis, J. F., (66) 862
Walls, F. X., *560
Walsh, J. J., (26) 1138, (4) 1631
Walters, F. G., (88) 1206
Walton, G. L., (62) 345
Ward, Jr., G. G., (42) 217
Ward, M. R., (62) 1000
Ward, N. G., (120) 1062
Ward, S. B., (53) 1000
Ware, M. W., (92) 141, (34) 468
Warfield, L. M., (87) 1700
Warner, L. H., (131) 346, (47) 1274, (177) 1275, (135) 1346, (99) 1632
Warren, A. E., (47) 62
Warren, J. C., (94) 62
Warren, J. N., (38) 1061
Warthin, A. S., (95) 862, (25) 937, (34) 1273, (67) 1488, (114, 134) 1700
Warwick, H. L., (125) 218
Washburn, B. A., (71) 281
Washburn, F. H., (179) 1275
Washburn, W. H., (63) 1559
Waterman, J. H., (11) 1418
Waterman, O., (29) 1418

Waters, P. S., (136) 63
Wathen, J. R., (100) 531, (5) 1631
Wathen, W. H., (47) 406, (51) 468, *548
Watkins, R. L., (4) 1138
Watkins, T. J., (148) 1001
Watson, A. W., (118) 469
Watson, F. S., (20) 937
Watson, J. W., (106) 141
Watson, S. S., (157) 1140
Waugh, W. F., (101) 531
Weaver, H. B., (175) 142
Weaver, J. C., (109) 63
Weber, L., (53) 62, (7) 345, (1) 1345, (38) 1558, (54) 1559
Webster, G. W., (72) 62, (104) 141
Webster, J. C., (68) 62, *913, (96) 1346, (82) 1700
Weeks, J. E., (105) 469, (12) 658
Weicker, H., (124) 532
Weigel, L. A., (12) 1488
Weiland, C., (119) 406
Weill-Mantou, J., (132) 1346
Weir, R. F., (13) 405, *801
Weir, W. H., (77) 1274
Welch, J. F., (132) 532, (73) 717
Welch, S. A., (69) 218
Welch, W. M., (19) 1558
Wells, E. F., (47) 1139
Wells, G. W., (100) 406
Wells, H. G., (91) 141, (73) 598
Wells, W. A., (24) 405
Welt, L., (50) 1062
Wentworth, A. H., (3) 1061, (35) 1138, (36) 1205, (9) 1273, (8) 1345
Werner, M. B., (137) 1063
Wertman, S. E., (7) 217
West, J. N., (11) 598
West, J. P., (50) 406
Westcott, T. S., (71) 1139
Wetherill, H. G., (56) 598, (56) 717
Weymann, M. F., (143) 1275, *1290, (94) 1700
Whalen, C. J., (2) 1273
Wharton, H. R., (57) 218
Wharton, L. D., (181) 142
Wheaton, C. L., (81) 406, (110) 1206
Wheelock, K. K., (21) 468
Wherry, J. W., (123) 1559
White, A. C., (51) 1000
White, C. Y., (100) 469, (49) 862
White, F. W., (18) 717
White, J. W., (66) 141
White, S., (41) 1418
White, W. C., (124) 1139
Whitfield, Dr., (134) 142
Whitington, W. P., (155) 470
Whitman, R., (62) 862, (78) 1418
Whitmore, B. T., (151) 1063
Whitney, E. W., (17) 345
Whitney, H. B., (97) 1489
Whitney, W. F., (1) 345
Whyte, J. M., (87) 862
Wickham, W., (108) 1700
Wiener, A., (1) 140
Wiggin, F. H., (61) 1488
Wightman, O. S., (3) 598
Wilcox, R. W., (26) 345, (36) 468
Wilder, J. A., (58) 1139, (95) 1489
Wilder, W. H., (141) 1063, (81) 1632, *1669
Wilkin, Dr. (56) 62
Wilkinson, C. H., (134) 1489
Will, O. B., (86) 141, (53) 659
Willard, D., (60) 218, (65) 862, *1077, (60) 1632
Williams, C., *514, (13) 937
Williams, E. G., (48) 1274, (122) 1419, (73) 1559
Williams, E. T., (12) 795, (25) 862, (23) 937, (25) 1000
Williams, F. H., *688, (23) 862
Williams, G. S., (125) 1489
Williams, H., (28) 141
Williams, H. J., (118) 218
Williams, H. T., (14) 530
Williams, H. U., (101) 862, *1596
Williams, J. W., (46) 717, (12) 1000
Williams, U. V., (43) 1138
Williams, W. R., (19) 217, (24) 1632
Williamson, E. O., (134) 407
Williamson, H., (65) 1418
Williamson, W. D., (107) 469
Wilmarth, A. W., *973
Wilson, D. C., (73) 1632
Wilson, E. H., (99) 862
Wilson, E. J., (132) 938, (101) 1489
Wilson, F. C., (50) 937, (166) 938
Wilson, H. A., (2) 217
Wilson, J., (66) 598
Wilson, J. C., (24) 1345
Wilson, J. T., (33) 141
Wilson, L. B., *1675
Wilson, N. L., (121) 469
Wilson, R. J., (33) 345
Wilson, R. N., (11) 861, (3) 937, (3) 1699
Wilson, W. H., (103) 1632
Wilson, W. R., (45) 217, (46) 717
Wiltfong, C. O., (60) 141
Wingrave, W., (116) 469
Winnett, F., (68) 717
Wippern, A. G., (31) 1418
Wirt, W. E., (91) 1419
Wise, P. M., (97) 718
Wise, S. P., (87) 1632
Wisecup, F. E., (19) 62
Wishard, W. N., (62) 281, (1) 598
Wishart, D. J. G., (72) 406, (96) 1274
Wisner, W. O., (89) 1062
Witherstine, H. H., (124) 1206
Witte, M. E., (99) 141
Woehnert, A. E., (74) 937
Wohlgemuth, H., (111) 1274
Wolbarst, A. L., *827, (46) 1727
Woldert, A., (120) 1419
Wolfe, J. L., (89) 531, (110) 938
Wolfe, S., (130) 1489, (95) 1559
Wolff, B., (167) 1206
Wolff, H., (93) 1700
Wolff, H. S., (83) 1727
Wolfstein, D. I., (56) 937, (28) 1727
Wood, C. A., (161) 1140, (148) 1419
Wood, C. M., (49) 1418
Wood, E. G., (130) 1001
Wood, E. S., (18) 1488
Wood, G. B., (74) 406
Wood, G. W., (36) 1488
Wood, H., (138) 282
Wood, W., (12) 598
Wood, W. C., (6) 1558
Woodring, W. W., (80) 406, (119) 1700
Woodruff, C. E., (20) 62, (6) 405, (96) 718
Woodruff, H. W., (59) 345
Woodruff, T. A., (161) 1140, (148) 1419
Woods, C. H., (151) 1275
Woods, Jr., H., *320, *1517
Woods, R. F., (21) 598
Woods, J. T., (108) 1062
Woodson, B. D., (82) 1727
Woodson, L. G., (133) 407
Woodward, C., (129) 1001
Woodward, J. H., (73) 937
Woolsey, G., (14) 1699
Worcester, W. L., (98) 718, (100) 862
Work, H., (105) 1489
Wormley, W., (119) 1489
Worthington, C. E., (80) 62
Wright, B. L., (96) 141
Wright, E. S., (70) 1001
Wright, F. T., (11) 345
Wright, H. A., (93) 1001
Wright, J., (126) 218, (8) 281, (114) 469, (135) 938, (113) 1139, (80) 1345
Wright, J. H., (71) 1559
Wright, O. R., (53) 1274
Wright, W. M., (66) 281, (160) 1206
Würdemann, H. V., (105) 346, (147) 1206, (142) 1275, (82) 1632, (95) 1700
Wyeth, J. A., (149) 142, (95) 282, (137) 559, (58) 862, (1) (1) 1205, (54) 1632
Wyman, H. C., (86) 406, (49) 1699, (37) 1727
Wynkoop, E. J., (77) 1139
Wynn, T. P., (190) 142

Yager, E. J., (105) 1346
Yarros, R. S., (80) 1001
Yearsley, M., (37) 62
Yeo, I. B., (142) 469
Youmans, T. G., (102) 1489
Young, A. A., (108) 1419
Young, A. D., (113) 282
Young, H. H., (63) 1345, (50) 1488
Young, J. K., (107) 1139
Young, W. B., (16) 1273

Zahorsky, J., (43) 62, (60) 717, (38) 468, (46) 1488
Zederbaum, A., (20) 405
Zeim, C., (84) 62
Zeisler, J., (55) 1418
Zeit, F. R., 1432
Zentmayer, W., (88) 938
Ziegler, S. L., (67) 1700
Zimmermann, M. W., (84) 938
Zinke, E. G., *611, (32) 937, (15) 1138, (54) 1345
Zugsmith, E., (22) 598

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Addresses.

POVERTY AND DEGENERACY: THEIR CAUSE, PREVENTION AND CURE.*

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CHICAGO.

Members of the American Medical Temperance Association: Though not retaining sufficient physical trength to be with you at your present annual meetng, I nevertheless send you cordial greeting, and ask your patient attention to the following subjects at this beginning of the twentieth century of the Christian era. During the last few months the literature of Christendom, and especially that of our own country, has been filled with eulogistic notices of the remarkable progress made in every department of literature, the sciences, arts, industries, and facilities for intercourse during the century just closed. The general correctness of these eulogistic notices, so far as they relate to discoveries in science and their practical application to improvements in every department of human industry and intercourse, is universally admitted. While it is thus freely admitted that the application of steam and electricity have made neighbors of the most distant nations, and multiplied many times the products of human industry; and the application of the facts and principles of sanitary science, evolved by our own profession, have so far limited the prevalence of epidemics and infectious diseases as to add one-third to the average duration of human life, it is very generally conceded that poverty, imbecility, epilepsy, insanity, criminality, and other diseases of degeneracy have been increasing faster than the increase of populations. So true is this that human degeneracy, both physical and mental, has become a subject of frequent discussions by sociologists, physicians and legislative assemblies, and many remedies have been suggested. As nearly all the writers on the subject allege poverty with its environments and heredity as the chief causes, so all their remedies have for their object the improvement of the first, and the prevention of transmission by the second. We are told to improve the tenement houses and ensure for them more light and air, more cleanliness and ventilation, and already millions of dollars have been expended in such work in the larger cities of this and other countries.

And to prevent the propagation of degenerates hereditarily, we are advised to prohibit by legal enactments the marriage of the feeble-minded, the epileptic and the insane, and to render impotent by surgical operations convicted criminals of both sexes. And some have even suggested that the modern care bestowed upon the defective classes in providing for them hospitals, asylums and charitable support, and for the criminals comparatively comfortable prisons, has been an important cause of their continued increase and corrupting influence upon the body politic. Careful examination will show that nearly all the remedies proposed are aimed at the removal of the effects of degeneracy instead of their causes. It is true that poverty is prone to create an environment of dirty streets; small, overcrowded and ill-ventilated houses, that favors the prevalence of typhoid fever, tuberculosis and other infectious diseases, by which the ratio of mortality is increased. But simple poverty, aided even by dirty and overcrowded tenements, has no more tendency to create either mental or physical degeneracy than do the mansions and palaces filled with all the luxuries of the rich. True degeneracy, whether mental, as manifested by the different grades of mental impairment and disorder; or physical, as seen in defects and deformities of body or limbs, or in simple defective vitality, is the result of causes capable of directly impairing the vital properties of the protoplasm and corpuscular elements of the blood and tissues of which the living body is composed: causes, therefore, that enter into the system and either remain or are repeated daily through considerable periods of time.

Consequently they do not exist in the environments of either poverty or riches. Neither are they to be found as elements of any variety of true food. Simple food, whether solid or liquid, satisfies the appetite in about the same quantity through life; and if too much is taken it produces not degeneracy, but indigestion or other temporary sickness.

There are, however, a large number of well-known substances, which, when taken into the living body in small doses, are neither digested, assimilated or used to repair the natural waste of the tissues, nor to evolve any known natural force or energy, but are soon eliminated through the various secreting or eliminating organs either unchanged or in a state of oxidation. While these substances are in the system they exert a modifying influence on the metabolic processes and functions either of particular organs or of the system as a whole, and consequently are always injurious to persons in health. If given in large doses, or in moderate doses through long periods of time, they cause tissue degenerations or even death. Therefore by chemists and toxicologists they are classed as poisons. But physicians, by using them in small doses and for brief periods of time, can and do avail themselves of their power to modify the vital processes in such manner as *to correct morbid conditions of disease, and thereby* classify them as medicines. But every intelligent physician knows that if he gives real medicine to persons in good health it only helps to make them sick, in strict accordance with the ancient proverb: "The well need not the physician, but only those who are sick." Clear and definite as are the foregoing distinctions and relations between food, poisons, and medicines, we are still compelled, even at this commencement of the twentieth century of the Christian era, to witness their confusion and practical intermixture by large portions of both the profession and the community. Thus we see on the dining tables of many in all grades of society, and still more in the social banqueting halls, not only food, but a variety of anesthetic and narcotic substances also, that the chemist calls poisons and the physician calls medicines. The substances thus used all belong to the anesthetic and narcotic classes, as opium, cocain, tobacco, ether and alcohol, all of which when taken internally either by the stomach, lungs, or hypodermically, directly diminish cerebral and nerve sensibility, muscular strength, tissue metabolism, and protoplasmic vitality in the direct proportion to the quantity used. By directly and quickly lessening the cerebral sensibility, which is man's seat of consciousness, they lessen his consciousness of all mental impressions, whether of heat, cold, pain, strength or weakness. And this is the true secret of their deceptive and destructive influence over the human race. While they thus lessen the man's ability to judge correctly, either of his own condition or of the condition of his environment, they are equally retarding and perverting the vital processes of cell growth, nutrition, disintegration and secretion, and if continued for any considerable period of time, inevitably lead to physical and mental degenerations in both parent and offspring. By the people of Asia and the East Indies opium is the chief agent used, while in Europe and America, alcohol and tobacco take precedence in all grades of society. But what is the real difference between the Chinaman's opium siesta, and the European or American's banquet of food and alcoholic drinks in an atmosphere blue with tobaco smoke; or his modern after-dinner "smoker"? As a mode of speedily getting into the land of dreams with the material world shut out, the Chinaman's method is doubtless superior.

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* Read at the annual meeting of the American Medical Temperance Association, at St. Paul, June 6, 1901.

However, as a mode of overcoming man's sense of propriety and self-control and of materially depressing all his vital functions without actually destroying his ability to find his way home some time before the next morning, the European and American plan succeeds best. Both are deliberate indulgences in the use of subtle poisons that deteriorate health and morals in direct proportion to the quantity used.

That the daily or habitual use of alcoholic drinks, even in moderate doses, not only impairs both health and morals and leads to slow tissue degenerations, but also so impairs the metabolic and nutritive processes as to render the individual more liable to attacks of all acute infectious diseases, and more liable to die when attacked, has been fully demonstrated not only in the laboratory of the scientists, but also in every field of human labor and in every variety of climate.

The experiments of Doyen, Abbot, Ridge, Verlaguss, Ranelleti, and Goldberg, the annual reports of the registrar-general of Great Britain, and the records of life insurance companies, all prove this so completely as to leave no room for doubt or cavil. And by thus diminishing the vital resistance and promoting tissue degenerations, the alcoholic liquors equally diminish the vitality and promote both the physical and mental degeneration of their children, as was shown in a paper presented to this society, by me, in 1899. Then why longer waste time and money in efforts to renovate the tenements of the poor; in obtaining laws for securing sanitary marriages; and in devising surgical operations for rendering both degenerates and criminals incapable of extending their hereditary influence; and yet leave the causes of seven-tenths of all pauperism, crime and degeneracy that afflict the people of this country and of Europe in the form of alcoholic drinks, tobacco and other narcotic poisons, untouched or even fostered by governments for the sake of the revenue they yield? It is a striking example of economic inconsistency when municipalities and governments issue a license to sell alcoholic liquors and tobacco for a money fee, in aid of the public revenues, when the use of those same articles results in compelling the same municipalities and governments to pay out for the support of the resulting pauperism, insanity, crime and degeneracy ten dollars for every one dollar received as license fee, without counting the $2,000,000,000 paid by the consumers in our country annually without getting in return the value of a loaf of bread or of a shirt to cover their nakedness. It is more than sixty years since my mind was compelled by the inexorable rules of logic, to adopt the conclusion that if alcoholic liquors are legitimate articles of commerce and popular use, the traffic in them should be free to all, rich and poor alike; or if they are really subtle, deceptive and dangerous poisons they should be placed on the statutes of the several states with arsenic, corrosive sublimate, strychnin and other poisons, to be sold and used under the same regulations as the other articles named. It is puerile in the extreme to admit the truth of the ancient proverb that "wine is a mocker, and strong drink is raging, and whosoever is deceived thereby is not wise," and yet talk of both as stimulant, restorative and even nourishing, and to be licensed for general use. It is still more puerile to freely admit the poisonous and destructive influence of alcohol, as it exists in fermented and distilled liquors, and yet for a paltry money bribe for the public conscience, license its general use under the pretense that the influence can not be wholly suppressed, and therefore it is better to *regulate* it by a license. On the same basis licenses should be issued to a sufficient number of men to do all the stealing and murdering according to legal regulation, because both have been continued throughout the history of our race in defiance of the prohibitory laws of both God and man. The paramount question before the intelligent men and women of Christendom to-day, is not one of politics or of political parties or of social classes; but one solely pertaining to public health and morals.

It is, whether alcohol and other well-known narcotic drugs are really wholesome articles of drink or food, safe for general use; or are they absolutely subtle, deceptive and dangerous poisons, stealthily destroying both public health and morals, and constantly multiplying hereditary degenerates in all classes of human society? If the former, they are entitled to the same treatment as other articles of commerce and general use. If the latter, then their regulation belongs exclusively to the police and sanitary authorities, aided by the courts. They can not be both. That the alcohol, as it exists in fermented and distilled liquors, is a positive protoplasmic poison, directly impairing every natural structure and function of the living body in proportion to the quantity used, and the length of time its use is continued, is proved by the results of every experimental investigation concerning it, instituted by eminent scientific men, both in this country and Europe.

Their verdict is abundantly confirmed by the history and condition of the inmates of every asylum for the poor, the feeble-minded, the epileptics, the insane and the inebriates; those of every reformatory and prison; by the records of every police and criminal court; and by the details of every well-kept registry of vital statistics. As concerns danger to human life, every intelligent reader of the public press knows that the ordinary use of alcoholic liquors by persons claiming to be in health, is the direct cause of more suicides, homicides and murders every month, than is produced by all the other poisons known to toxicologists in a year. Then why not now, at the beginning of this twentieth century of the Christian era, cease calling alcoholic liquors stimulants or restoratives, and not only speak of them as subtle and dangerous poisons in every household, but also concentrate all the facts of science, clinical experience, and of economic and criminal records, in favor of having alcohol and all liquids containing 2 per cent. or more of it, placed on the statutes of the several states along with arsenic, strychnin, etc., to be sold and used under the same regulations and penalties as other poisons dangerous to the public health and morals? If this were accomplished it would soon remove one of the chief corrupting influences from the field of politics, and place it under the domain of the police and health authorities, aided by the courts, where it legitimately belongs. And it would do more to prevent tuberculosis and all forms of human degeneracy than all the other measures combined.

SECTION ON STOMATOLOGY.

ADDRESS OF CHAIRMAN DELIVERED AT THE FIFTY-SECOND ANNUAL MEETING OF THE A. M. A., HELD AT ST. PAUL, MINN., JUNE 4-7, 1901.

R. R. ANDREWS, A.M., D.D.S.

CAMBRIDGE, MASS.

For the second time you have honored me by making me your chairman. I appreciate the courtesy and kindly feeling which has prompted this action, and thank you for it. In reviewing some of the more important matters which have been presented to our profession during the past year, it seems to me that the symposium on dental education presented before this Section at its last meeting is one of considerable importance as an educational factor. The time was ripe for such a discussion, and we are already beginning to see its good results. At the beginning of this twentieth century we find that advanced conditions call for a higher educational and professional standard. Some of our schools are already recognizing this, and have decided that another year should be added to their course of study, making it of four years, and they also have under consideration the requirement of a degree in letters, or its equivalent, for entrance to their schools. Necessity for such action arises from the fact that this is an age of progression; the material development and enterprise of the time is irresistible. The man who would succeed in a profession must now grasp every legitimate opportunity. His equipment should be larger and his education broader than formerly. Success in the future is to come to him who shall be educated to do a thing as well as it is possible to do it; that is, he must become a specialist in some department of his chosen profession. I have been informed that President Eliot, of Harvard University, after reading the symposium on dental education, writes to our Secretary that he is favorable to the establishment of a medical university where all the medical specialties, including dentistry, shall be taught under one head, and that a common degree shall be given to all. President Capen, of Tufts College, writes me under date of February 21, 1901: "I have received your pamphlet containing an account of the proceedings of the Section on Stomatology of the AMERICAN MEDICAL ASSOCIATION. I have read not only your own paper with great interest and profit, but have examined the other papers sufficiently to get the drift of the sentiment of the Association. I was surprised to find it so strongly in accord with my own views. I may add that I find now, both in our medical and dental faculties, an opinion strongly favoring a four years' course for dental students, as well as medical students, and the common degree of M.D. for all.

Some of the criticisms against this common degree come from eminent professors in our special schools, who are earnest, able and conscientious men, sincerely believing that if we are to educate our students in medicine, they will become theorists, as are most of the educated dentists from the schools of Europe; and that the practical technical training, which in the past has made the name of the American dentist honored all over the world, will no longer be acquired; that under this new system American dentists will become thinkers rather than operators, scientists rather than practical men.

Such opinions are to be respected, but, on the other hand, the four years' course could be systematically arranged to give the technical training fully equal to that given to-day in our best special schools, together with the necessary medical education that shall warrant the common degree. We should demand the same medical education that is required in other medical specialties, with all, or more, of the practical training that shall teach the hand as well as the head. Such a system has never yet been tried, but it is reasonable to suppose that two men, being equal otherwise, the one with this advanced education must necessarily be the broader man, and the profession must necessarily be benefited by such a training.

Another subject nearly as important is in relation to the many problems now before our profession, and as to the best methods of solving them. This has recently been considered by the Dental Society of the State of New York, and should receive our cordial coöperation. In considering these problems, will it be wisest to have the individual investigator proceed in his own way, paying his own expenses in solving our problems, or will it be better for national or state societies to establish commissions, whose duty shall be to oversee and encourage research work, propose problems to be worked out, and also have it in their power to furnish the necessary funds for carrying out this work? If such a commission were established, is it not reasonable to suppose that the profession would be greatly benefited, and result in a more uniform practice? Such a commission should be composed, not merely of eminent practitioners, but of men of judicial minds and training, whose duty should be to collect the facts, weigh the evidence, and give rulings on disputed points.

Among the students in our special schools there are always to be found a few who have the inborn faculty of investigation. While building up a practice they give a very considerable amount of time in solving some of the scientific problems which appeal to them. Some of these men become well known to the profession, others do not. There is a very considerable expense attending many of these investigations, and research work would be better done if they could afford suitable apparatus. Work of this nature is of value to the whole profession, and it seems as though it would be wise to establish the commission suggested. Investigators could then devote a certain portion of time to solving problems, and receiving therefor adequate compensation. Our schools also should encourage research work, and a department for it should be established, where men who are capable should be given the opportunity to work along lines congenial to them. This may lead to a career of much value to themselves and of great good to their profession.

There are one or two important matters which I think would be wise to consider in regard to the subject of State Boards of Dental Examiners, which is to be presented in a series of papers for our consideration and discussion at this session. This subject is an important one, and will, I am sure, receive careful attention in broad and generous criticism. We are all mindful of the fact that in many of the states the Board of Dental Examiners has been largely instrumental in raising the professional standard and of influencing in no small degree the necessity for a higher educational qualification in our special schools. With all this there is yet something to be desired. An appointment to the board should never be a political gift. The nomination of suitable persons to fill vacancies on such a board should be made to the appointing power by nominating committees from the state societies elected for this purpose. This plan works admirably in Massachusetts. A standard should be established by the National Board of Dental Registration for the boards of the different states, that shall make it possible for a person who has once passed a successful examination to practice his profession in any other state, without further examination. And again, in justice to the older members of our profession, discretionary powers should be given the boards of the several states to guide them in granting certificates to those who have for years been active in honorable practice, and who are not, by reason of advancing years, fitted to pass the same examination as should be demanded of recent graduates.

In the department of prophylaxis the future is bright with possibilities. Recent investigation is opening up a field that gives promise soon of successful treatment. J. Leon Williams, in his brilliant paper on "The Bacteria of the Human Mouth," has demonstrated beyond a doubt that there exists upon the teeth of persons predisposed to caries, a hardened gelatinous film, which is a culture medium for the growth of myriads of microorganisms. This film he calls the gelatinous microbic plaque. The organisms found here are largely the leptothrix racemosus, together with the leptothrix buccalis. The leptothrix racemosus is, like the leptothrix buccalis, a thread-like form, but differs in having myriads of spores growing from an extremity, where they multiply with marvelous rapidity. They are benign or malignant, according to their environment, and the saliva in an abnormal condition is the exciting cause of dental caries.

Prof. J. P. Michaels, of Paris, who has given the results of his recent brilliant investigations of human saliva at the International Dental Congress, tells us that, as a result of over-activity of the liver, a superabundance of glycogen may be found in the saliva, giving it an alkaline reaction; but upon coming in contact with the ptyalin, which is always present in the saliva, a reduction occurs of the glycogen, first to glucose and then to lactic acid, which unites with the lime of the tooth. He has experimented with ptyalin and glycogen (either alone giving a neutral solution) and put them in separate bottles containing distilled water, then connected the liquids in the two bottles by a piece of cord, which formed a loop around, and in contact with, a chalk crayon. By capillarity the liquids came together at the chalk, which dissolved away wherever touched by the cord. He asks: "Does not this tend to show how decay of the teeth may occur even in an alkaline saliva, and independent of microbic influences?"

Michaels has also shown that exciting and pathological conditions can be found, and are positively recognizable in the saliva. He has been able to determine the histochemical condition of saliva of those who are not affected with carious teeth, and suggests that nutrition may establish vital conditions so desirable in securing immunity from decay.

A paper of special interest on treatment to prevent the decay of the teeth has been presented by Dr. D. D. Smith, of Philadelphia, and should command our serious attention, when considered from the standpoint of recent investigation. The simple method is to place in a suitable carrier a piece of orange-wood sharpened to a chisel point for using on the flat surfaces of the teeth, and another shaped to a pencil point to be used between them. These points are to be renewed as often as they become frayed. Before using they are dipped in water and then in pumice, and with them the surfaces of the teeth are polished well up into the festooning of the gum, using enough force to stimulate, and cleansing what may appear to be clean teeth, going over all surfaces thoroughly, outside, inside, between, and on the occlusal surfaces. This work should be done as thoroughly as it is possible to do it, leaving the teeth in a polished and smooth condition. Such action has a stimulating influence, and under this stimulation the internal vital function seems roused to new activities. Treatment is to be given once a month, the patients are instructed to thoroughly care for their teeth daily, using fine salt once a week. It produces stimulation of the gum tissue, of the alveolar tissue, and of the whole oral structure. This simple, but vigorous, treatment, by removing the gelatinous microbic plaque which Williams describes, induces the most attractive and apparently most perfect condition of the mouth attainable.

Another subject of particular interest to this body is the law creating a dental service in the United States Army, and enacted by Congress since our last session. Although the law, as enacted, is not all that we asked for, it is an entering wedge which may result in more satisfactory legislation in the future. Dr. Maynard, of Washington, somewhere about the year 1850, was very considerably interested in the enactment of such a law, and used his influence with the President and Secretary of War to have it passed, but without success. In July, 1858, the late Dr. H. J. McKellops, of St. Louis, offered a resolution, with the idea of establishing such a law, before the Western Dental Society, at Quincy, Ill. It may thus be seen that the movement is not a new one, but that, with the growth of public appreciation of dental services, which is justly regarded as one of the common necessities of life, the demand has been created and recognized. Dr. John S. Marshall, of Chicago, one of our most esteemed and valued members, has been appointed President of the Examining Board of Dental Surgeons of the United States Army. He is a man in every way eminently fitted for this position. The high standard which is demanded for the appointment of contract dental surgeons under the new law may be recognized from the fact that out of fourteen candidates only two successfully passed the examinations. Dr. Marshall, in a communication, says: "It is to be hoped, therefore, that our dental schools will not recommend any young men to come before this board who are not thoroughly well qualified, theoretically and practically, in all the branches comprising the curriculum of our best dental schools."

In the department of biology, science has made some of her most remarkable advances. The work of the investigator has opened up new vistas of relations, of which many of us have never dreamed. In an article entitled "Aspects of Recent Biological Research," recently published in the International Monthly, from which my allotted time will allow only the very briefest quotations, Prof. E. B. Wilson, of Columbia University, says: "Chemical analysis proves that protoplasm is not a single chemical substance, but a highly complex mixture of many highly complex organic compounds, which undergo continual chemical transformations—indeed, a living cell is doubtless the area of the most complex chemical operations taking place in nature. . . . . In the fertilization of the egg, a single cell derived from the father (the spermatozoön) unites with a single cell (the egg) derived from the mother, while the paternal nucleus unites with the maternal. By continued division of the single cell thus formed, arise all the cells of the body. If now we examine the details of this process, we find one remarkable difference between the egg and spermatozoön, namely, that while the two contribute equally to the nucleus of the fertilized germ, the whole, or very nearly the whole, of the remaining cell substance (protoplasm) is supplied by the egg. We have thus a substantial basis for the conclusion that the protoplasm of the embryo is derived wholly or mainly from the mother, while the nuclei are equally divided from both parents. If this result be placed beside those derived from microscopical vivisection, we gain for the first time a clear, if superficial, view of the mechanism of inheritance, and can form a definite mental picture of the manner in which it is effected. As the paternal and maternal nuclei approach each other within the egg, each undergoes a complicated metamorphosis, and finally resolves itself into a number of rod-like or worm-like bodies known as chromosomes, which are exactly equal in number and similar in form in the two. At this period, therefore, the egg no longer contains two nuclei, but in their place two precisely similar groups of chromosomes, which are respectively paternal and maternal in origin. As the egg undergoes its first division to form the first two cells of the embryo, every chromosome in each group splits lengthwise into two exactly similar halves, which separate and pass, one to each of the daughter cells. Each of the latter, therefore, receives two similar groups of daughter chromosomes, paternal and maternal, which are exactly reduplicated in the other cells; and from these two groups, in each cell is built up a daughter nucleus, shown by its mode of origin to be equally derived from both parents. At the second division, the chromosomes reappear, again split lengthwise, and the halves are again equally distributed to the daughter nuclei, and so on throughout the entire life of the animal."

Among other facts noted in this article by Prof. Wilson is the following: "The egg may be fertilized by chemical stimulus, without participation of the male element. If, for example, the eggs of sea-urchins be allowed to develop in sea water containing a very slight excess of potassic chlorid, the development of the embryo is greatly altered, no skeleton is formed, and a larva results which, though living and vigorous, is of widely different form from the normal ones. If, in place of potassic chlorid, lithium chlorid be added to the water, the changes are still more remarkable, the embryo never infolding the cells which normally give rise to the alimentary canal, but developing, as it were, inside out. These monstrous forms are, of course, incapable of nourishing themselves, and ultimately perish; but the result is of high interest, as opening the possibility of creating wholly new organic forms by varying slightly the conditions of development. . . . Certainly new growths of the highest interest, relating to the chemical conditions in the living matter, may be looked for along the lines of research thus opened. . . . Experiments on insects, frogs, and rotifers have already given good ground for the conclusion that sex is in these cases determined by conditions of nutrition, which again in the long run are reducible to chemical conditions. The possibility is thus opened that we may yet succeed, not only in fertilizing the egg by chemical means, but also in rendering the organism male or female, by analogous methods."

In closing, I regret that I have not been able to offer any research work, and that the time allotted for this address will not permit the review of many important papers offered to the profession during the last year. I would suggest that the leading symposium for our next year's session be "Prophylaxis." Our section is well fitted to consider this subject, and the recent investigations should stimulate us to earnest and serious work.

Original Articles.

THE APPOINTMENT OF STATE BOARDS OF MEDICAL AND DENTAL EXAMINERS.*

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Not many years ago it seemed to the majority, as it now seems to some of those interested in the advancement of medical and dental education, that diplomas from chartered colleges or schools gave sufficient assurance that their possessors were qualified to practice in the general or special fields of medicine in which degrees had been conferred upon them, and that the diplomas granted served as an adequate standard for license. This view assumed that instruction in such schools was faithfully given, by competent teachers, during a period of sufficient length to qualify students for the commencement of their careers, and also assumed that diplomas were conferred only upon those who, at the completion of such a period of study, had demonstrated, upon examination, their qualifications. It also assumed that charters would not be recklessly granted to professional schools, and that such charters would be revoked upon proof of their abuse. Experience has demonstrated the fallaciousness of such assumptions. Legislatures have passed incorporating acts most improvidently. So-called colleges have been created at the solicitation of charlatans having no other purpose in view than the manufacture and sale of parchments conferring degrees *in absentia,* without any safeguard or state supervision. The Buchanan and Delavan diplomas are fair types of the product of these factories, which became a stench in the nostrils of decent men.

An attempt was made to remedy this evil, so far as it affected medical license in the State of New York, by a provision requiring that diplomas granted outside the state should be endorsed by our own schools. But this plan proved of little avail. Not only did respectable colleges endorse fraudulent and valueless papers, but the diploma business was carried on by certain of our native corporations.

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* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

It therefore became necessary to do away altogether with the diploma standard, for the reason that it could not be higher than that of the poorest institution authorized to confer a degree.

The plan of creating State Examination Boards, with power to supervise licenses, next suggested itself. To-day such boards exist in nearly all of the states and territories, but with varying powers and standards, which will be found set forth in detail in the carefully prepared bulletins issued by the University of the State of New York, and in the publications of the National Bureau of Education.

At the commencement of the experiment it seemed to those resorting to the plan that to empower these boards to list the "reputable" schools and to accord to their diplomas only the licensing power, would meet the needs of the situation. In many jurisdictions such listing is still the chief function of the state board, and diplomas of the colleges classified as reputable afford therein a license to practice. But this plan has not proved successful, and the refusal of state boards to list certain of the so-called colleges has given rise to no small amount of litigation, especially in the West, where the right of a state board to exclude graduates of schools refused listing by the board has been vigorously attacked in mandamus proceedings.

In twenty-three states, however, the diplomas of even the best schools no longer afford a license to those upon whom they are conferred, but only serve as one of the qualifications of candidates for examination before state boards. This separation of the licensing power from the diploma has proved beneficial to the really reputable schools, some of whom strenuously opposed it. When the diploma constituted a license, faculties seem to have been swayed, insensibly perhaps, by a feeling that the payment of fees on the part of a student, especially if he were somewhat diligent, established a contract right on his part to receive collegiate authority to practice upon the public, and, as a consequence, the standard of education was low, compared with the standard of today. With the abolition of this right to license, which was an apparent, not a real, privilege, the value of a diploma was presently perceived to be proportionate to the reputation of the institution conferring it, which, in turn, was incited by self-interest as well as love of scholarship, to raise its standard and confer its degree only upon those earning it. The period of study has been extended, and if the medical and dental laws have accomplished no other result than the raising of college standards, they find in that alone their ample justification.

The examination of candidates for license being vested in a state board, it is of the first importance that such a body should be properly constituted. In the first place, it goes without saying that its members should not only be honest and competent, but independent of extraneous influences, and with eyes single to the performance of their sole duty, namely, the admission to the profession of men competent to practice, and the exclusion of incompetents from its ranks. In order to command respect and authority, it is equally clear that the board should be composed of men of standing in the community and in their profession. Its members should be abreast of the science of the day in its application to their calling, for the rule of liability in malpractice cases takes into consideration the advanced state of science. Without being identified with teaching bodies, these examiners should be conversant with the arts of instruction and examination, able to frame questions of a nature to elicit the candidate's knowledge, and ascertain his ability to apply it. Unless the minds of the examiners and of the examined meet; unless each understands the other's aim, examinations are fruitless, impediments rather than aids.

Again, the office of examiner should be, and is, when proper tests are regarded in filling it, a post of honor. For that very reason, it should never be filled by one whose appointment is not made because of his competency to perform the duty with which he is to be charged, but for the sake of conferring honor upon the incumbent. It is but natural that the post should be sought for the honor it confers, and yet a conscientious man, apprehending and purposing to perform faithfully its duties, will be slow to seek it. The position of an examiner upon a negligent or incompetent board is the reverse of honorable, and no man of professional pride and standing would suffer himself to be appointed to such a body.

Unhappily, there have been instances of late—let us be thankful that they did not occur, and could not have occurred under the system adopted in the State of New York—of the appointment for personal and political reasons of conspicuously unfit boards. These appointments have been made through the heads of political divisions of the country, and it is but fair to presume that the successful candidates sought the places rather through political influence than by demonstration of their own fitness.

In our State of New York such scandals are not possible. I do not say this to praise our own state board, or to claim for it especial excellence on account of the individuals who compose it. To do so would merely be an exhibition of bad taste, and I certainly have no desire to underestimate the many excellent, able and learned men who honor the examining boards of other states. But what I mean to say is, that those very men are wronged and handicapped when the appointing power, for political reasons, associates them with men of lesser qualifications, and this is what has happened elsewhere, but can not happen in the State of New York, for the following reasons.

The University of the State of New York is not a teaching body, nor yet a political body, but is created for purposes of examination and supervision. It has been assailed and criticized from time to time by politicians who would abolish it, and thereby make way for some substitute which would afford patronage, through themselves. Fortunately, such efforts have hitherto failed, and whatever other criticism may have been made upon the Board of Regents, we have yet to hear any one suggest that its actions have been animated by political or partisan motives.

I sincerely hope that the day is not far distant when each state will have a board of regents, possessing the powers of the Regents of the University of the State of New York, or, as suggested by President Henry Wade Rogers, that "there should be established in each state a council of education, which should be invested with powers similar to those of the Regents of the University of the State of New York, and it should be composed of the most eminent men of the state, without any reference to political considerations. No degree-conferring power or no degree-conferring institution should be incorporated without the approval of the Council of Education."

If such a condition could be made National there would be no further cause for criticism by foreign nations, who now claim that the degree-conferring power in America is without proper supervision.

With the University lies the power of appointing our boards of medical and dental examiners, from candidates nominated by the state societies. The dental board is divided into four classes, the term of one class expiring on July 31 in each year. Prior to the second Tuesday in June of each year, the state society is empowered to nominate from its membership twice as many candidates for filling vacancies to occur on the board as there shall be such vacancies, and from these nominees the regents appoint.

Thus it is sought not only to remove the constitution of our examining board from state politics, but to take it out of professional politics. The state society, the purpose of whose incorporation is to assemble together men to whom the interest of the profession, its advancement and honor are dear, and membership in which is open to all who are of good standing in the profession and chosen from their districts as representative men, has power to say to the regents: "We submit to you the following names of men who, in the opinion of the dental profession throughout the state, are fit and worthy to represent it. But we can not appoint, we can not by intrigue constitute the board; that must be done by the regents, and with them rests the responsibility for ill-advised selection, limited only by our responsibility in submitting poor material for their choice." Thus there is a double responsibility created; we are responsible for our nominees, and the regents for their appointments, and thus it is that we have removed, so far as human ingenuity could do so, the constitution of our board from the hands of the politicians; and, if I have spoken of our system of licensing dentists as good, I have still spoken less strongly than Dr. Allen, secretary of the advisory committee of the National Association of Dental Faculties, who, writing under date of Nov. 15, 1899, for "A Comprehensive Report from the New York Examiners," was kind enough to say of the body to which he belonged, "the entire committee regard the New York Dental Law as the best in the country."[1]

Before the board thus constituted come the candidates for license, after satisfying the board of regents that they have been graduated from the professional schools after receiving the proper preliminary education. But the examiners do not know the candidates who appear before them or the schools from which they come. To guard against any possible favoritism candidates are examined by number, and it has even happened that men have appeared before the board who have slipped by the outposts and have passed the professional examination without having satisfied the preliminary requirements, with the result that their success in passing the state board has yet failed to license them to practice within the State of New York, by reason of their failure to comply with the preliminary requirements.

The success of our system, therefore, depends upon the existence in the State of New York of our University, which, while controlling all educating bodies, does not itself possess a teaching faculty; thereby have we been able to keep our board out of politics and have been able to create a double responsibility for its appointments.

That we have excluded from the profession all incompetents would be claiming to be something more than human; what we can safely maintain, however, is that we have guarded the entrance to the profession, not only with sentinels, but with watchmen over the sentinels.

REVENUE FOR CONDUCTING THE WORK OF STATE BOARDS OF DENTAL EXAMINERS.*

GEO. L. PARMELE, M.D.

HARTFORD, CONN.

In this "Symposium on State Boards of Dental Examiners in Their Relations to the Profession and the Colleges," I am asked to deal simply with the subdivision: How Shall the Revenue for Conducting the Work of the Boards of Examiners Be Obtained? 1. By taxation of the people? 2. By fees from the candidates? 3. By taxation of the profession?

Naturally our first inquiry would be as to the causes bringing about dental legislation, and the purpose of such laws.

The majority of the dental world labor under the idea that these dental laws were passed to protect the dentist from the dentist; that is, to bar out the dental parlor man and admit to practice only those who will live up to the code of ethics, but notwithstanding the fact that more or less selfishness on the part of the dental profession prompted their advocacy of such enactments, the laws are for the safety and welfare of the people. This being the case, you say, let the people pay.

No doubt there are many good reasons why the people should pay; for example, were the people taxed, then many worthy, but financially embarrassed young candidates, who have expended at college their last hard-earned dollar, would not be required to wait until they could earn enough to satisfy the demands of the state boards, although I think all candidates would be better off if they would serve as assistants with some successful practitioner. There they would gain experience, not only in the manipulation necessary to the care of the dental organs, but learn, what is vastly of more importance to them at the outset, how to deal with people and to meet the many petty but important details of daily routine in a successful professional office. Were there no other objection to the people being taxed and the state paying these expenses, the fact confronts us that in most states it would be impossible to obtain adequate legislation for such expenditure, from the fact that the average legislator, on account of his peculiar ideas concerning false economy, in appropriating state funds, would never vote for such expenditure, when he was confronted with the fact that in every other walk of life he who dances pays the fiddler. It would be waste of time to deal further with Subdivision 1.

Let us leave Subdivision 2, "fees from the candidate," while we quickly dispose of Subdivision 3, "taxation of the profession."

In our professional ranks there are many generous, whole-souled, self-sacrificing men, but when we talk of securing the revenue by taxing the profession it means the whole profession, and judging from my own experience with the average dentist it would be a greater task to get the dental profession to allow itself to be taxed, so that other dentists might enter into competition with them, than it would be to get the people, the free and enlightened voter, to submit to taxation in order that another voter might carry on his business.

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[1] Regents' Bulletin 9, February, 1900, Dentistry, p. 751, Note.

* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

This brings us to the only other source of revenue, 2, "the candidate."

When I was requested to prepare this paper there came upon me a sudden elation, for it seemed that for once I knew where to go for the desired information.

In a chat with a lawyer along the lines of dental legislation, he gave me the impression that the state should pay the costs of examination, but alas, when I hastened to him, note-book in hand, I found that I had misunderstood his remarks. Our talk had been of a certain retroactive clause in a proposed dental bill, and that which he had intended to say was, that if this bill should pass it would be a hardship to compel certain ones to pay a second fee, and in justice the state in this case should be responsible.

Continuing the conversation after I had stated the question I was to deal with, the attorney assured me that so far as he was informed of the various license-granting powers, there could be but one answer to the question. Later investigation has convinced me of the soundness of his opinion.

In the work of various other boards, for example, health, forestry, and fisheries, the expenses justly come from the public funds, as the benefit is not for individuals, but for the people; but in the case of a license to carry on some trade or profession, whereby an individual is allowed certain privileges, the individual should pay *the costs, notwithstanding the fact that the laws governing* such cases are enacted for public protection.

Let us glance for a moment along the various walks in life where licenses are required before one can enter the ranks, and see by actual reference to a few state laws, from what source the revenue is obtained: Georgia, state board of embalmers, license $5, from the candidate; Ohio, physicians, dentists and druggists, fee $25, from the candidate; South Carolina, homeopathic board, fee $5, from the candidate; New Hampshire, plumbers, fee $1. for examination, 50 cents every year, from the candidate; Virginia, medicine and surgery, fee $10, from the candidate; Nebraska, barbers, examination $1, and annually $1, from the candidate; Michigan, barbers, examination $5, and annually 50 cents, from the candidate; barbers in business at passage of law, $1, and annually 50 cents, from the candidate; Tennessee, osteopathy, fee from candidate for recording diploma from one named college, $1, and all not so recorded, fine $100.

This list could be continued indefinitely, and would still have the refrain, "from the candidate."

"Where the successful prosecution of a calling requires a certain amount of technical knowledge and professional skill, and the lack of them in the practitioner will result in material damage to the one who employs him, it is a legitimate exercise of police power to prohibit any one from engaging in the calling who has not previously been examined by the lawfully constituted authority and received a certificate in testimony of his qualification to practice the profession." "It is the common custom in all the towns and cities of the United States to require the payment of a certain sum of money as a license fee, for the privilege of prosecuting one's profession or calling. The license is required indiscriminately of all kinds of occupations, whatever may be their character, whether harmful or innocent, whether the license is required for the protection of the public or not. . . . It is either a license, strictly so-called, imposed in the exercise of the ordinary police power of the state, or it is a tax laid in the exercise of the power of taxation. In many cases it becomes exceedingly important to determine under which power the particular license is imposed. For example, if the license is a tax, the bill must originate in the House of Representatives, according to the almost universal requirements of constitutional law. But if it is a *police regulation*, the bill providing for it is constitutional in whichever house it was introduced." "*It is one of the 'ways and means' of defraying current expenses.*"[1] A license tax has been held to be reasonable when imposed upon vendors of milk, hucksters, pedlars, vendors of cigarettes, upon attorneys, physicians, bankers, hacks and drays and other vehicles. So likewise may such tax be exacted of keepers of places of amusement, of dealers in second-hand articles, pawnshops, insurance brokers, auctioneers. In short, the state has the power to impose a license fee as a tax or a police license upon every kind of business.

"*In the regulation of all such occupations, it is constitutional to require those who apply for a license to pay a reasonable sum to defray the expenses of issuing the license, and what is a reasonable sum must be determined by the facts in the case.*"

"*When a municipal corporation is given the power to license useful trades or occupations, it can not use the license as a tax to raise revenue, nor is it authorized to entirely prohibit the exercise of the trade or occupation* by any excessive license fee."[2] Mr. Justice *Manning* says:

"A proper license tax is not a tax at all *within the meaning of the Constitution* or even within the ordinary signification of the word, tax. . . . The imposition of a license tax is in the nature of the sale of a benefit, or privilege to the party who would not otherwise be entitled to the same. The imposition of an ordinary tax is in the nature of the requisition of a contribution from that which the party taxed already *rightfully* possesses."

I have examined all state laws concerning dentistry, numerous other laws and legal authorities, and so far I have not succeeded in finding a single case where the costs did not fall upon the applicant, therefore in answer to the query: How shall the revenue for conducting the work of the state boards be obtained? I reply: From the candidate.

REVENUE FOR CONDUCTING THE WORK OF BOARDS OF DENTAL EXAMINERS.*

V. E. TURNER, D.D.S.
RALEIGH, N. C.

BY TAXATION OF THE PEOPLE.

Although one of the main objects of examining persons wishing to commence the practice is to secure protection for the people from inferior dental service, and it would seem for such immunity the people should be taxed as they are for any other protection which the law affords. This is doubtless the correct principle, as the members of the state boards are state officers, it would seem most rational that they should be paid as other state officers.

But there would be great difficulty in influencing legislation, as any proposed enactment relating to dental surgery or any branch of medicine, which carried with it a draft upon the treasury of a state, would excite the opposition of the average legislator. It would not be expedient to ask this, as it would be fatal to any further amendment to our present dental laws. In fact, in some of the states, it is specially provided that under no circumstances shall these dental enactments be of any expense to the state.

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[1] Tiedeman's Police Regulation of Skilled Trades and Professions.

[2] American and English Encyclopedia of Law.

* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

BY FEES FROM THE EXAMINATION OF CANDIDATES.

All things considered, the most satisfactory plan of securing compensation for the service rendered by members of the state examining boards should be derived from the fees received from the applicants for license. All legislation prescribing and controlling the standard of qualifications of licentiates in dental surgery has been effected through the influence of state dental societies, and every one will concede that such enactments are of great benefit not only to the public but to all reputable practitioners in maintaining a higher standard of professional attainments, which gives more dignity and a higher consideration among the other professions as well as the public.

It is for these reasons, to a great extent, that it is most earnestly desired that the incompetent and unworthy should be excluded from the practice.

The amount of compensation should be to some extent commensurate with a reasonable expectation of income to be derived from these fees. Of course, in some states it would be larger than in others, but a per diem of $10 or $15 and 3 cents mileage would not be extravagant remuneration for members of examining boards, except the secretary, who should be paid $25 per annum additional.

If these and such other legitimate expenses should aggregate less than the amount of fees received, the balance should be turned over to the state society for conducting scientific research or other educational purposes. If these amounts should aggregate more than the fees, then the state society should supply the deficit. It should not be asked of any competent practitioner to attend these meetings and make these examinations for less compensation than the amount mentioned.

In addition to these duties, each member must prepare suitable question lists before the meeting and examine the replies after, in order to give the proper grading to each applicant examined, and both of these require the exercise of much thought and judgment.

BY TAXATION OF THE PROFESSION.

If this should be necessary, then the profession should not hesitate to bear that burden for the sake of the benefit which is derived from a proper discrimination between the worthy and qualified and the unworthy and incompetent; and in order to prevent the lowering of the standards of professional equipment and to provide against the advent of those who pursue the calling as a hustling business rather than a learned and dignified profession.

Hydrotherapy Without Water or Cold.—Winternitz, the professor of hydrotherapy at Vienna, states that in the local application of alcohol compresses we have an effective hydrotherapy without water and without cold. First introduced by Salzwedel for phlegmonous inflammations of the skin, Winternitz has found them extremely beneficial in herpes zoster, in the gangrenous as well as the hemorrhagic form. The pain vanishes almost immediately after the application of the alcohol, and the process arrested and cured. The compress is made of six to eight layers of absorbent gauze dipped in 65 per cent. alcohol, covered air tight and left for twenty-four hours.

THE DENTAL COLLEGE STANDARD.*

1. IS IT WHAT IT SHOULD BE? 2. IF NOT, WHAT IMPROVEMENTS SHOULD BE MADE? 3. HOW MAY THE REQUIREMENTS BE IMPROVED?

CHAS. C. CHITTENDEN, D.D.S.
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In order to intelligently consider the subject in hand it will be well to first define, if possible, what is the dental college educational standard as at present accepted in this country.

Much agitation and discussion of the subject has for the past two or three years occupied the attention of the journals and the various dental societies, from the national bodies down to the smaller local organizations, as to what the standard should be, but the average practitioner would be at a loss to define what the present situation is if asked to do so. The fact is the whole matter is in a state of evolution just now, the general trend and consensus of opinion seeming to be that high school graduation is the probable goal within the next few years. The fact also is that until 1899 there never was any established standard in this country, each school being a law unto itself as to whom it should matriculate and graduate. The National Examiners sought for years to induce National Faculties to establish a minimum standard as a basis from which to go forward, but it was not until an open rupture, based on a standard demanded by the Examiners as a criterion of reputability and recommendation of schools to the various boards, brought the two national bodies together at Niagara Falls in 1899 in a conference which resulted in the following code of rules being placed on the records of the Faculties Association:

"The minimum preliminary educational requirement of colleges of the association, for the session of 1899-1900, shall be a certificate of entrance into the second year of a high school, or its equivalent, the preliminary examination to be placed in the hands of any state or county superintendent of public instruction."

Amended Rule VIII. National Association Dental Examiners, Sec. 2.—"The following preliminary examination shall be required of students seeking admission to colleges recommended by this association: The minimum preliminary educational requirements of colleges of this association for the session of 1900-1901 shall be certificate of entrance in the second year of a high school, or its equivalent; the preliminary examination to be placed in the hands of the State Superintendent of Public Instruction, as adopted by the State Board of Missouri."

Also, "the minimum preliminary educational requirement of the colleges of this Association, beginning with the session of the year 1902-1903, shall be a certificate of entrance into the third year of high school, or its equivalent. The preliminary examination to be placed in the hands of the State Superintendent of Public Instruction. Nothing in this rule shall be construed to interfere with colleges of this association that are able to maintain a higher standard of preliminary education."

The above represents the exact situation at this time, to-wit: present standard, one year of high school, promised standard for 1902, two years of high school, with the agreement between the two bodies that all schools belonging to the National Association of Dental Faculties and living up to its standards and requirements as laid down, shall be accepted as reputable by the examiners and recommended to the various state boards for recognition. The regents of Michigan, under the advice of the venerable dean, Jonathan Taft (to whom be all honor), took the initiative in setting the pace and required high school graduation for 1900. The regents of New York will, in 1902, culminate a progressive advance in requirements to full high school standard. At the World's Dental Congress in Paris last summer high school graduation was made the international standard for entering dental colleges. So it would seem quite certain that, viewed at large, high school graduation is accepted as our *Ultima Thule.*

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* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

The National Association of Dental Faculties is a body composed of the membership of 51 dental schools, all of which accept and agree to conform to the regulations and rules formulated by that body in the conduct of their schools. However much these schools may vary in their equipment, faculty and general effectiveness as educational institutions, yet, as long as they retain membership in that body, all, by special agreement with the examiners, command the same privileges and recognition, subject to the various dental laws in nearly all the states—membership in that body now being accepted by all state boards as the criterion of reputability before the law. This association, backed at all times by the National Association of Dental Examiners in its every forward move, has in the eighteen years of its existence wrought wonders in the development and unification of curricula, the evolution of dental technics, lengthening course of study and special training, and in a hundred ways making the advantages offered for obtaining a complete dental education and equipment almost ideal; so that the student who comes to the dental college to-day prepared and fitted to assimilate and appropriate what may be his own for the mere taking—has no excuse for leaving school unprepared to enter successfully on the practice of dentistry.

The code of rules and standing resolutions formulated by this association for the government of its members in the conduct of their schools is a monument of sense, wisdom and ethics which would redound to the credit of any deliberative body of men having the interest of their calling at heart—and yet strange to say, never, through all the years of its existence has it seemed to occur to it to effectively inaugurate and establish any given educational preparation as a minimum standard requirement for entering the dental college course—until the regulation of one year of high school above quoted was adopted, and that only after the demonstration of much friction on the subject between the examiners and faculties. The query arises naturally why this important subject was so long ignored. But one logical answer suggests itself, namely: The different schools, or at least a majority of them, preferred to retain in their own hands the decision, without dictation from any source, as to the fitness of an applicant for matriculation. This power of discretion was safely lodged in schools that were state institutions with equipment and financial resource sufficient to meet all current expenses and salaries, regardless of the number of students matriculating—and those with assured attendance large enough to leave out any temptation to admit applicants for financial reasons only. But only a small proportion of the schools have been thus situated. Indeed, most of them must have a given number of students to keep them from bankruptcy, and so at least there was a door of temptation open for the acceptance of credentials that ought to have been better than they often were. In fact at Niagara in 1899 the chief argument used by college representatives against the fixing of the two-year high school minimum requirement was that it would prove the financial ruin of one-half the schools of this country. But what is the fact? Since the first bar was put up the attendance in dental schools has not only diminished but has increased—at least in all the better equipped schools. The experience of the Medical Department of Johns Hopkins is a great object lesson in this regard. Some years ago, because of the increasing size of its classes, and in the hope of restricting them, the entrance requirement was raised first to high school graduation, and then to the possession of an academic degree, all of which only served to increase the number of applicants for matriculation—thus proving a well-known axiom, that the more highly one holds his wares the more eagerly they are sought.

There is probably no doubt that if the higher standard could be successfully inaugurated and established it would work a very marked improvement in the quality of student material entering our schools, a consummation, from the standpoint of us all, most "devoutly to be wished."

The capacity, education, fitness, integrity and even general intelligence of the average examiner, so glibly and frequently brought into question in our current literature, may be far from ideal, and yet, even he is often startled into protest against much of the graduated product that has been sent out from many of our schools in the past few years.

Accepting, from what appears to be the inevitable tendency of events, the high school graduation standard as a condition to be desired, the question at once presents: How can it be inaugurated without working injury to the college interest? The answer is that the colleges, by joining forces with the boards whose duty it is to enforce the dental laws, can at once establish and maintain, without friction or disturbance to the interest of all concerned, an immediate advance of matriculation standards to high school graduation. This as a general proposition will stand.

However doubtful may be the comparative power and strength, legally and morally, of the faculties and examiners when at variance with each other, there is nevertheless no limit to their power and ability to maintain any given standard of educational requirement within reason—as a basis of accepted reputability before the public—made and provided these two representative forces agree to work honestly together to that end. This fact has been lost sight of too long by the colleges. No matter if the appointment of examiners is dominated by political pulls, or if many of their men are incompetent, dull-headed and far from fit representatives of our ideals (as has often been charged), still it must be always remembered that these men represent and are entrusted with the administration of the law, and the law always dignifies its chosen administrators. No matter if the many state laws bear evidence of weakness and inefficiency and are apparently at great variance with each other in their provisions and standards, if scrutinized carefully they will all be found to demand that colleges shall be reputable. This one feature of uniformity in ethics makes it possible for the teachers and examiners, backed by the moral support of the profession at large, to establish and maintain in every state of the Union any educational as well as ethical standards on which they are agreed to be of one mind.

While the Faculties Association's rules give the individual college absolute control over the behavior, standing, advancement and transfer of the entered students —thus making it impossible for one of them who has fallen short of passing muster in one college to be admitted to another school without the full consent of his alma mater—while, I say, all this obtains after a student has matriculated and been given standing, there is at present nothing to absolutely prevent a man whose credentials have been refused by one school, bobbing up serenely before the dean of another school, and having standing given him on the same credentials. This commercial and competitive temptation, which is the chief obstacle in the way of successfully establishing a uniform advanced standard requirement, can easily and only be overcome by such wise and careful legislation on the part of the Faculties Association as has distinguished it in handling many other no less delicate questions. In the many discussions of this subject of preliminary education the argument has been made, and stoutly supported by facts, that a large number of the most eminently successful of our professions are men who had practically no educational opportunities before embarking on a professional career, and, therefore, that to set a fixed and arbitrary standard would in effect often bar out those who might become, with opportunity, shining lights. Of course, all will admit that such men would be much better equipped with proper educational preparation, and indeed for such very good reason every fixed standard that has been agreed upon or that is contemplated for the future, is modified by the words, "or its equivalent," to give the aspiring student his chance—no matter if his educational opportunities have been curtailed by environment.

How shall a fair, honest judgment as to what constitutes the equivalent of any given standard be secured, and who shall pass such judgment? On this question being properly answered hinges the successful establishment of any prerequisite standard. All will admit that however well equipped a man may be as instructor in any branch of dental education, yet, by that very fact, he is sure to be at least rusty and out of practice on public school examinations, and certainly the college teacher will admit that the politically appointed examiner is likely to be fully as unfitted as himself. Did you ever have opportunity to examine a bunch of material filed with a college dean, called matriculation credentials? It is a startling object lesson, and a few samples will exemplify the plausible expedients resorted to (and, it is to be feared, too often successfully) by men wholly unqualified to meet the published standards of the schools they wish to enter. Ambiguous letters from interested teachers and complacent county superintendents, carefully framed to seem to cover the standard demanded, but really as untruthful as the serpent's reply to Mother Eve, "Yea, hath God said."

Mind, the new Rule VIII, jointly adopted at Niagara in 1899, provides thus: "The preliminary examination to be placed in the hands of the State Superintendent of Public Instruction, as adopted by the State Board of Missouri." Manifestly—since it is not to be presumed that the dental profession has the power to prescribe special duties for any state officer—the intention and expectation was that the State Superintendent of Public Instruction for each state having dental schools should be requested to select and appoint some person specially fitted, in his judgment, to pass upon credentials and properly conduct the preliminary examinations of intending dental matriculants in the colleges of that state. Of course the State Superintendent is a "political creation," but his special appointee for this particular work may practically be satisfactorily agreed upon between the college and the state board. Thus would the college dean be relieved from the ever-perplexing responsibility of passing upon all sorts of so-called credentials, such as every dean has presented to him—credentials many of them so plausible as to easily pass muster if only casually scanned, and which the dean feels certain, should he refuse them, would be cheerfully accepted, along with the student and the fee, by another dean somewhere.

Eliminate all this. Make it absolutely impossible that a matriculant can be given standing in any college on credentials, until these credentials shall have been passed upon, 1, by the accredited representative of the State Superintendent, and then, finally, accepted or rejected by the joint conference committee of college and board. Make their decision, in the interstate and intercollegiate sense, final, and add, if you choose, a reasonable probationary clause providing the applicant a way to make up his shortcomings without abandoning the study of dentistry. In other words, make the general rule jointly accepted at Niagara, practically effective and universal by the two National bodies formulating specific rules for its application in every state, territory and district where a dental school exists. This plan has been successfully operated in more than one state and if it, or some other one equally practicable, could be inaugurated and applied to all schools alike, one of the chief temptations to commercialism and competition rather than emulation, would be eliminated and each school would stand or fall accordingly as its intrinsic merits command recognition.

LICENSING.

I. BY EXAMINATION. II. BY DIPLOMA.*

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There should be no other requirement for entering upon professional work than a diploma from a college chartered by the state for the purpose of educating students, whether it be a classical course or upon some special branch, employing well-qualified teachers, who are thoroughly in earnest in their work and loyal to their profession, and are desirous to see only those who are thoroughly competent, enter it; who count the qualities of the student of more value than the profits of the institution.

It is evident that the schools are not all conducted on a basis like this, for the reason that there must be sufficient funds to defray all expenses, including the assistants' salaries, and sufficient dividend to justify the faculty or incorporators for the valuable time taken from their practice; not considering the added tone and dignity of being called "professor"—which is frequently used for profit.

The question arises: "How many students can we get at a certain rate each?" If one hundred are secured it will be difficult to get sufficient clinics for demonstration; how will this be accomplished? The usual way is to urge the students to solicit, not among the poor and needy, but among their own class of people, who are usually able to pay a fair fee, to a young man who is struggling to build up a practice; and as this business or commercial spirit increases the higher motive of professional education is lost sight of. What is more unprofessional than this manner of solicitation?

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* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

"A chain is no stronger than the weakest link." If license by diploma is accepted then the poorest school sets the standard for all. Hence the necessity for licensing by examination.

The necessity for examination is not a new idea; it can scarcely be called a modern one, for in 1700 a French writer urges the necessity of examinations in France for the practice of dentistry.

The history of reform in the dental profession in England, by Hill, conclusively shows, not only the necessity requiring examinations, but also the advancement from a scientific and professional standpoint, by which the people were the beneficiaries. On page 86 he quotes the remarks of the president of the Odontological Society (the late S. Cartwright): "It can not be doubted that a liberal education is of the greatest advantage to those engaged in practice, and the more education is extended in all ranks of society the more it becomes necessary that the members of our profession qualify themselves as highly as they can. For those who employ their services in these days have a right to look, and do look, to the qualities of the mind as well as mechanical adroitness of the fingers."

The main object of the above society was to unite members of the dental profession into a recognized body and provide a means of professional education and examination.

In nearly every criticism on dental legislation, or State Board of Examiners, the author gives the impression that the laws were passed for the benefit of the profession; if such were the case they should be repealed, as class legislation is in direct opposition to the principles of our government. The laws were made for the people.

Most of the Christian denominations require examinations for license; the medical laws are similar to ours, and the profession of law requires the same. In the writer's state (Pennsylvania) a law student must pass a preliminary, and after graduation must pass an examination before a board appointed by the court, the only persons competent to appoint that board.

The representatives of the people recognize the necessity of passing laws for their protection from the incompetent practitioners.

The best means possible should be adopted to test the qualifications of the aspirant to professional practice, and the most important is a judicious selection of competent examiners. As stated above, the court appoints the examiners for the law—they are the most competent to perform that duty, but would prove themselves unqualified were it required of them to appoint a medical board.

No one is competent to appoint a board for professional examinations except members in good standing in that profession. The difficulty of securing competent men for examiners in our profession arises from the necessity of their being appointed by the governor, thus making them officers of the state, and he being authorized to appoint, may be ill advised in the selection.

As the court is the representative body of the profession of law, and is competent, the only representative body of the dental or medical profession in the state is the state society, it should be a state society in fact as well as in name, which is not the case in some states. It must be chartered by the state, and to be a representative body must be made up of representatives (or delegates) from the local societies throughout the state. Act of 1897, Pennsylvania, gives the power of appointment to the governor and the selection to the state society (which is a representative body). Section 5: "The Pennsylvania State Dental Society may, at its annual meeting in 1897, and annually hereafter at said meeting, select as nominees the names of double the number of examiners required, who shall be members in good standing of the society, and transmit such names to the governor under its seal and signed by its secretary. From this list of nominees the governor shall, during the month of August, Anno Domini 1897, appoint a board of dental examiners. In case of failure of the said Pennsylvania State Dental Society to submit such list, as aforesaid, the governor shall appoint members in good standing of the said society without other restrictions. Each one of the said appointees must be a registered, bona fide practitioner of dentistry in good standing, and shall have practiced dentistry under the laws of this state for a period of not less than ten years. No member of a Dental College Faculty shall be eligible to appointment upon the State Board of Dental Examiners, but this shall not apply to membership in the Dental Council. The governor shall fill vacancies by death or otherwise for the unexpired term of said examiners, from the list of names submitted to him by the Dental Society."

Since the present law went into effect 823 applicants have been examined; these were graduates from 18 different schools. Of this number, 711 passed successfully and received licenses from the dental council; 112 failed to receive the required average. A fraction over 13.5 per cent. considering[1] "The measure had an *ex post facto* character, inasmuch as when it was passed many students had already spent two years in the dental schools, and in recognition of this fact the Board of Examiners has been lenient in the examination of applicants. This has no doubt aided in fostering good will toward the law. The influence of the work of the Board of Examiners has been beneficial, in that it has given a stimulus to the teaching in the schools and has induced stricter scrutiny of the acquirements of candidates for diplomas. Formerly students often sought the schools from which they could be graduated most easily, but now they prefer those that require a higher standard."

If the Board had marked the first two years, as they have since, the percentage of failures would have been doubled, as fully that number barely passed the required average—75 per cent.

Dr. John Sayre Marshall, president of the Board of Examiners for the Army, reported to the journals that out of a class of 14 applicants (the first to be examined) only 2 passed.

Is this not sufficient evidence that there should be a reform in the system of educating students for our profession? When the profession and the people realize the condition that now exists there will be no difficulty in getting laws passed that will be a real protection against quackery and contribute to hastening the time when the stomatologist will take the degree of M.D., leaving the name "dentist" to designate those who do only mechanical work.

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[1] Extract from report to the Governor.

DISCUSSION ON PAPERS OF DRS. CARR, PARMELE, TURNER, CHITTENDEN AND LIBBEY.

Dr. Eugene S. Talbot, Chicago—One important part of dental education consists in the appointment of state boards, as well as the quality of the men upon these boards. A great responsibility not only rests upon them, but also great power. These men should be selected from the state dental societies. Twice the number of men required should be selected and appointed (at least the number required by law) by the governor of the state. Good men are thus secured, their appointment is legal and it places the responsibility. The proper men can wield a great power, and they do as it is, but if they were qualified men, of high ideals, of education, the specialty would be placed where it belongs. I believe these men can control the colleges and place the entrance and financial examinations exactly where they should be. That the graduates are not up to the standard has already been shown in the examinations made in the army through the National Examining Board for the Army and Navy. I have received a letter from Dr. Marshall in which he says 42 graduates have been examined and only 11 have passed. This shows the graduates of our dental schools are certainly lacking in some particulars. This has already been noted in an editorial in one of the journals, showing great interest in the symposium of last year. Dr. Marshall's report shows something more is lacking, and no doubt the agitation of these subjects will be productive of much good at the next meeting of the National Association in Milwaukee. This editorial hoped the men would not return to their homes without advocating the introduction of a four-year course in every dental college and I believe the time is coming when a four-year course will be demanded, thus giving the student a firm foundation for his life career.

A four-year course will necessitate a better understanding of the subjects the teacher has under discussion. Pathology, of which the student and the profession alike know very little, will and should become one of the principal branches. The bacteriology of the mouth, a great factor in diagnosis, is really a department of dentistry, and yet the first principles are scarcely taught or understood. The etiology of diseases of the mouth is yet in its infancy, and the coming dentist must not only be a "plugger of teeth" but an all round pathologist.

Dr. Vida A. Latham, Rogers Park, Ill.—I think the solving of the whole question comes with the preliminary education—registration. The candidate enters the Northwestern University, the Chicago Dental School, or any other dental college. The candidate applies for entrance just as those Dr. Chittenden has mentioned, and is permitted to register, let us say, on a high school or university diploma. The city of A has a good high school whose certificate indicates a sufficient preliminary English education. But another candidate with a diploma from the schools of the town of C can perhaps hardly do more than write her own name! There are all kinds of universities and high schools, unfortunately. Compare the schools and universities of Duluth, Chicago, and New York with those in certain other places. How can you make them equal in subjects or standard? Yet any of their graduates might register in a dental or medical college on these diplomas, however unequal their qualifications. The trouble is in standardizing the elementary requirements in every case.

There is another thing to be brought out in this connection. Supposing I advertise; supposing I am a quack! The College and state board do not take my diplomas away for misdemeanor! I can move into another state and practice again! These are the things that should not be tolerated in this country, especially as it is doing damage to our colleges. We meet with this matter of diploma everywhere.

Dr. R. R. Andrews, Cambridge, Mass.—There are a few words I wish to say in regard to raising the standard of the examinations of the boards of registration of the different states. In New England they are trying to equalize the examination in each state, so that a student may take the examination in one state, and practice his profession without taking another examination in any of the New England states where he may wish to practice. This reciprocity among the states is what the profession at large will demand. Public opinion in the profession is strongly in favor of such a movement, and if the National body will adopt a standard and live up to it, a man who shall once pass a state board can have the privilege of practicing in any state in the Union without further examinations.

As the law stands to-day, a man may pass a creditable examination in all points. At the end of five or ten years, on account of sickness or something else, he is compelled to go to another state, where he expects to practice his profession. He has his diploma, which he has earned, and his certificate from his state board, stating that he has been examined and found worthy. He has passed five or ten years in honorable practice, and with this record he should be allowed to continue without further examination; but as the law stands to-day, this man, with all his experience, has got to go before the board of that state and pass an examination, the same as the young man just graduating. What we want, and what the profession will soon demand, is that a man having once passed a creditable examination of the state examining board in one state, shall be allowed thereafter to practice in any.

The National Board should consider the matter of giving to the different state boards certain rights, in considering cases where a man has been engaged in honorable practice for twenty or thirty years, and who is obliged through illness to go where he is ordered by his physician to regain health. I have in mind the case of one of the founders of the Harvard Dental School, a man of thirty-years' active and honorable practice, one of the most able operators in the city of Boston, and respected by all who knew him. He was ordered West by his physician. After awhile he was called before the state board of examiners and candidly confessed that he could not pass their examination in chemistry, bacteriology, and other scientific courses presented, but stated that he could give them abundant testimony of his ability to practice his profession. He did not take the examination, but came North, and took a college course which admitted him to practice. The board is established to protect the public; can anyone doubt that with this gentleman's high standing, eminent ability, and years of experience, he was unable to fulfill every demand?

I have in mind the case of another who was graduated from one of our special schools in Boston. He went to Germany, and was in practice with his brother for a number of years. He is a fine operator; he is so good a mechanical operator that he is to-day employed as one of the instructors in that department of one of our schools. He is a very nervous man, who is easily rattled by an examination. Coming back to this country, and wishing to practice, he went before the board, but became so nervous that he could not pass the examination. In this case, there is no question but what the public would be well treated if he had been registered. I am myself an advocate for a good solid examination, but the examinations given by some of our boards, especially by new men who have recently come in, have in some cases been severe, with catch questions. It has been acknowledged by members of the board in our own state that it would be very difficult for them to pass their own examinations. It is a fact that a member of the board of a neighboring state was compelled to move to Massachusetts, tried the examination and was turned down. This question is one of great importance. There must be reciprocity between the states, and the sooner this matter is considered by the National Board, the better.

Dr. Charles Chittenden, Madison, Wis.—I think there is scarcely a board in existence that does not consider the number of years a man has had in practice. In Wisconsin our Board has in its code of rules a rule something like this: "Candidates having had ten years or upwards of practice immediately before applying for this examination shall be required to pass only a 50 per cent. examination." I think that rule applies in a majority of the states.

Dr. George J. Dennis, Chicago.—I am not actively engaged in the work of dentistry at the present time, but the raising of the standard of dentistry is something that always appeals to me. The question came to my mind as I listened to a paper that was recently read, and it also appeared recently in the papers, as to what would be the remedies for raising the standard of dental education. We have talked about dental education for years, and I believe the subject has been often brought up in this Section. Is it to be remedied by law or simply by the good intent of the majority of those who have this matter in charge? By that, I mean the faculties of the different schools or the members of the state examining boards.

The matter of requiring a dentist going from one state to another and failing to pass the examination of the board of that state, it seems to me, is entirely wrong on the part of our examining boards. They seem to fail to recognize that years of labor and years of reputable standing in a community count for very little compared with the examination simply. Examinations of a dentist's ability, as a rule, do not amount to much. I think that is recognized by medical men generally. Oftentimes an examination shows but very little of what a man is capable. This is recognized by examining boards in hospitals. Often in connection with the examination they will take into consideration not merely the quality of the paper that is presented, but the quality of the man, his moral standing, his standing in the community, and his ability in lines outside of mere memory, and the actual tests by presenting human cases of his ability. It seems to me that a dentist who has worked for years in one state ought to be valued for his manipulative ability very much more than to have his standing judged entirely by a written paper.

In regard to the matter advocated in one of the papers, of paying for the work of the examining board by fees from the candidates for examination, I think that method has been so thoroughly tested and proven a failure that it seems to me entirely out of the question to consider it here. The people are the ones who should bear the burden of expense. They are the ones who are being protected by the examining board, and they should bear the expense of the examination.

Dr. J. R. Currens, Two Rivers, Wis.—I am not a dentist, but I am a member of the Examining Board of Wisconsin. We had a meeting of the representatives of the Examining Boards of the United States yesterday in which these matters came up, and what impressed me here to-day is in regard to reciprocity between the different boards. I think if something can be arrived at, and if our laws can be so framed that they give the boards the power to recognize licenses from other states, I can not see but what it is the right thing to do. In the medical profession we have a little more difficulty than you dentists have. We have three or four schools to contend with, and the situation is a great deal more mixed. We have on our board two regulars, two homeopaths, and two eclectics. After July 1 we will have to take on one of our manipulative friends. In regard to this reciprocity business, there are many men who have grown old in the profession, their family surroundings are such, the condition of their health is such that they have to have a climatic change, and it is a great hardship to those men to put them through an examination. The matter of diplomas and examinations came up here this afternoon, and I believe in the medical line we are worse off than you are in the dental line. It is very hard for the State Board of Wisconsin to tell about the standing of a medical college in Alabama or Tennessee. For example, these schools will get out a curriculum that one will read with admiration, but they will take almost anything in the way of entrance requirements. Under our law we can require a diploma and examination both, and we will have such under direct control. It is all right to use a diploma if you know it is from a reputable school, but you can not have a class legislation, and there are very few boards that are allowed to use their discretion unless they have an investigation, which is a rather difficult piece of business. Most boards have to be self-sustaining, and it would be an admirable thing if they could prevail upon the legislators to make the concession, but it is difficult to make them believe that it would be for the benefit of the people instead of the medical men and the dentists. They want us to be self-sustaining, and it places us in a rather bad position sometimes. There was a flaw in our law in the revision of the statutes, so that we could not even send a man out to investigate a case without calling the whole Board together. We had a reserve fund of $1200, and the result was that we had to turn it into the treasury. We tried to get it back, but could not do it. We had no money to investigate anything; the state has the money, and it will stay there.

To my mind, the solution of the whole matter would be this: In the first place, raise the standard high. See that the primary education is brought up to a high standard. In regard to the high school standard which has been referred to, we have a clause in our medical law which provides that the high school standard must be up to the high school standard of our state. In that way any difficulty can be obviated very easily. One medical college fought very hard against the high school standard, and we had to cut it down to the junior year, but we expect to raise it two years from now. We have got to go slow in these things, and in this reciprocity business try to get the state laws on the same plane, and if we all join hands the matter can be accomplished. The laws are queer things to handle. There is that word "reputable" that is in the law. If a man is from a reputable college, the board has some discretionary powers, but if you get too particular about it, the board may decide you are a little too strict. It is a hard thing to learn the ways of the law. We had a case before our Board. Our law of 1897 was a very fair law. A disreputable individual took several courses in some Omaha medical college, and they refused him graduation. They pretended he did not come up to the standard. The fact was he passed a good examination, but it was on account of his moral character they refused to graduate him. The result was he went to St. Louis and graduated from the Barnes Medical College. He then went to North Dakota, and the Secretary of the State Board of North Dakota wrote to our secretary that the man was disreputable and doing all kinds of dishonorable things. He ran a lightning-rod business. He would go to a farmer with twelve children and tell him if he would give him a note for $100, he would take care of his children for twelve years. He took notes and sold them to some banks. He did the same thing in Iowa and Nebraska. Then he came to our state and wanted a license, and we refused him. We supposed our law was all right, but there was a revision of the laws in 1898. Our Board was a little afraid about those session laws of 1898, but we supposed they were all right, but they changed the wording somewhat and the punctuation, thinking it would come out all right, but if you take these things before a jury they do not always come out as expected. The case came before a jury and the fact of the matter was he beat us and we were obliged to license him. Now, he threatens us with personal damage suits.

Dr. R. H. Nones, Philadelphia—I am interested in the symposium and the various talks I have heard, and the whole question is a matter of cause and effect without arriving at the proper remedy. There are some apparent remedies, but to select one that would answer every case is a difficult thing to do. If we do seemingly find a remedy, one problem succeeds another until we find it is impracticable. How would you take care of the older practitioner if he wanted to move from one state to another? That would immediately be fought in some states that did not want a man to come over from another state, and that brings up the question of the survival of the fittest. It is a very well-known fact, yet a very sad one, that if a man has been in practice for some years, and he may be a young man, too, he neglects many of the theoretical branches which the examining board compels him to take. Now, if that man has not taken such an examination that is demanded of the younger men, I do not see how you could get a state board to pass him. It would be somewhat retro-active, to my mind, because he has had the opportunity to have had those qualifications which should fit him to go on in advance of this younger man. It acts in this way, you may say. Many a young man who, as has been suggested, might make a very competent dentist if he had those qualifications in later years. Why should not that young man have this same privilege to enter and bring up the necessary qualifications as the older man has, where you give him credit for forgetting his earlier qualifications? I say this problem and many similar problems have come to me. We have tried to get too many things instead of getting one good thing at a time. We started with too many things we wanted, and received nothing. I believe had the Association of Dental Faculties incorporated into their act or law, or whatever it was that was passed, a curriculum that should have been passed by the student: his preliminary education would have been much better than by grading the standard to one, two or three years, whatever it may be, of high school. With all the careful thought of these gentlemen they little, I suppose, thought that immediately it was entered upon the question would come up: What is one year of the high school in one state or another? Immediately that trouble arose, and it has been one of the very hardest things to contend with in colleges.

I can verify Dr. Chittenden's remarks in regard to qualifications; I have seen them in all forms. When students presented credentials to me, I have invariably taken their credentials from them and told them I would send them to the Superintendent of Public Instruction to have them passed upon. I think by immediately taking his credentials from a man you can settle the matter for all time. If that credential comes back, I can follow him up in any other school and tell them they have no right to take that man. That is a thing for the deans to look into. The other gentleman who spoke made the point of a faculty being liable to be mandamused. That is a very strong point, indeed. You think you are treading on safe ground when your state board says to a graduate that he is not a graduate from a reputable institution. The question comes up: What is a reputable institution? In order to emphasize that point I will cite the case of the school I am connected with—the Dental College of Philadelphia. We had some difficulty to get our dental college into the faculty. They refused us admission, and we went to teaching dentistry under the charter of the medical college. We sent our students before the State Board, and they refused to examine them. We threatened them with mandamus proceedings, and after consultation with the attorney-general, they were compelled to examine our students; they passed the Board, and shortly after that we were admitted to the Association of Faculties. Other states refused to do the same thing, but they soon fell into line. We were in perfect harmony with the faculty, but the question arises: What is a reputable school? This is a very serious question, particularly the point of getting men whom you would like to see on the state board. Those men, as a rule, are very busy men; men who can not afford to give their time to such a work as this. It is not a pleasure. I have seen a great deal of it. I am acquainted with the State Board of Pennsylvania, and I know the amount of work they have to do. I say there is absolutely no pleasure attached to it. In regard to the matter as to how the men on the state board should be recompensed, that is a difficult problem. The class of men that should be on the board are difficult to obtain, because their time is of a great deal more value to themselves than the recompense they get from the state. I see no other plan except that of the fee being paid by the applicant. It is a matter of the utmost folly to ask the public to pay for such services by taxation. The question is whether they want protection. The general public does not want protection, as a rule. I went through one of the large department stores in Chicago, and it was a matter of surprise to me that in this large department store they are doing dentistry work at "Fair" prices. They claim to do crown and bridge work and such things, and that in the second city in the Union. If the public does not want protection in the large cities, what could you expect in the smaller towns, where you would expect to tax the people for this protection? Would they want it? I say most assuredly not.

There is another point that struck me while listening to these papers, and that is in regard to the matter of Dr. Marshall not passing some twelve out of fourteen. That casts somewhat of a reflection at first thought on the various schools throughout the United States. To my mind, it does not, because I look at it in this light, that the greater majority of those students that are passed upon by the examining boards have made up from one to two years, and you can see at once that it makes it difficult for those men to pass. Again, I say without any hesitation, I believe the majority of the state boards of the United States could not pass their own examination. I say that without casting any reflection, but I do not think these gentlemen have kept up with the various theoretical subjects. It is out of the question to expect them to do such a thing, and I think it would be a point of much interest had Dr. Marshall told us whether it was the theoretical or practical branch in which they were lacking. I have always tried to find out the weak points of my students when they appeared before the state board, and tried to strengthen them on those points in college. I think that is a point the various state boards should give out. It would benefit the schools materially, and in that way the profession at large would be benefited.

DR. A. H. PECK, Chicago— Dr. Talbot has stated that state examining boards have power to regulate some phases of the individual college work, such as the preliminary requirements, etc. If Dr. Talbot's judgment is correct, and in a measure it is, I do hope the day is not far distant when the state dental examining boards may be placed in position where, by special legislation or advancement of public sentiment, or whatever the means, they may be able to successfully use the power that is placed in their hands that the entrance of students to our various colleges may be regulated and placed in the condition it should be, because we all know that the entrance of students to our colleges has not been what it should be. In other words, not to cast any reflections upon any institution, all colleges are pretty much alike in this respect. They pay very little attention, as a rule, to credentials presented by students. Many of them are private institutions, and are in the field for private gain, and whether or not the student who applies for admission possesses the necessary qualifications to carry him through lies with the powers that be. This is a demoralizing condition of things in this phase of dental education, and may the day be hastened when this condition may be eliminated and our institutions placed on their proper plane.

DR. CHARLES CHITTENDEN (closing the discussion).—There is no question about the power of examining boards, provided they have the dental colleges and the dental profession at their backs. Examining boards can do anything it is desired should be done for the dental profession in the matter of standards. As I tried to exemplify in my paper, there is no question but that the boards and the colleges together can do all that there is to be done in this matter. The difficulty has been in the past with the colleges and the faculties associations. For sixteen or seventeen years we have waited for the National Association of Faculties, who said that they would fix the standard; that they could be trusted, and that as soon as they had all schools in they would see that the standard was raised to where it should be, and that all these evils were corrected; but I think now, if the members of the Association were asked, they would admit that they have in the Association many schools that ought not to be recognized. Last year there was a school examined by a special committee of the Faculties Association, and a report brought in, which I had the honor of being permitted to see, prepared to be presented to the Faculties Association, but it was so scathing in many of its criticisms of the school that had been examined, that the report was withheld. I hope to see that report brought forward some day and the school properly dealt with. The Faculties Association feels it has a lot of weak schools represented, but it does not want to cause a disturbance, and the result is they have nothing by which to hold up the standard. They do not seem to remember that they should come to the examiners and join hands together and settle upon a standard; they do not stop to think that there might be a more successful method.

A gentleman said he would like to know in what branches the students were most likely to fall down. Our experience has been that students fall down first in simple anatomy. Next, they will fail on a dozen questions that almost any child in a common ward school should answer. That has been our general experience.

I desire to append the following letters, which speak for themselves:

Wisconsin, July 29, 1899.

"Gentlemen of the School of Dental Surgery.

"The bearer, ———, of this city, is a young man of good moral character and a very good student. In the year 1896 he was qualified to hold a second grade certificate to teach school in ———, which was equivalent to a three-year course in the high school of this city.

"Supt. of ——— School from 1894 to 1896."

"Dr. ———, Chicago, Ill., Dear Sir:

"Mr. ———, the bearer, impresses me as a young man in every sense qualified to take a dental course.

"He states that he completed the graded-school course and a portion of the first year of the high school course in the city of ———. Since then he has had several years of practical experience in a telegraph office in this city.

"Respectfully,

"Asst. State Superintendent.."

POST-OPERATIVE HEMORRHAGE.*

A. H. CORDIER, M.D.

President of the Mississippi Valley Medical Association: Professor of Abdominal Surgery, University Medical College.

KANSAS CITY, MO.

I know of no condition in my work that is more horrifying than to realize that a patient upon whom I have just performed an abdominal operation is bleeding dangerously. I know of no condition under which the surgeon will more quickly realize the importance of his work and appreciate more fully the great responsibility existing in every abdominal operation.

An avoidable accident to a patient that may result in the death of that patient is a very serious matter and should not be passed over as a trifling affair by the surgeon. Trying to give contentment to the sorrowing family and friends by assuring them that the all-wise Providence willed it thus may satisfy the unsuspecting and confiding family circle; but does it relieve the mind of the surgeon or save the patient?

The use of unstable ligature material on large pedicles and in localities where the same is quickly absorbed has cost quite a number of patients their lives from post-operative bleeding. It has been my misfortune to lose one patient from a post-operative hemorrhage, the cause being the use of a catgut ligature. After a large series of cases in which I used silk (I use it altogether now) without an accident of this character, I was persuaded to use catgut in a simple and easy case. This case was in a private residence in a distant city. Three hours after the operation my patient died from hemorrhage, the result of a slipped catgut ligature. I know that the ligature was responsible for this death. It should have been avoided. Dispensations of Providence are garments that may be used to hide the naked truths from an ever-credulous public, but before the eyes of the conscientious surgeon he sees the slanderous injustice of hiding his blunders under such sacred raiment.

That many fatal post-operative hemorrhages are unavoidable no one will deny, and it has been the experience of almost every surgeon to have had such. The recognition of the possibility of a patient's bleeding to death following an operation should only make the surgeon more careful to avoid it and to resort to the best method of speedily checking it when it has taken place.

There is no condition in which quick surgery is more essential; I mean by quick surgery, not alone getting at the work quickly, but rapid work after the secondary operation has begun. A patient who a few hours previously has gone through a severe operation, probably of long duration, or of a character to produce shock, is not a very good subject to be given an anesthetic and undergo a reopening of the peritoneum. If the surgeon does not recognize this, the majority of his patients who are reoperated upon will die. No chronic or deliberate surgery can be tolerated by such a patient.

The use of the Trendelenburg position, while it enables the surgeon to see the bleeding points and to tie them most efficiently, may by gravity, in a patient with a weakened heart, keep a vessel from bleeding during the operation that may bleed profusely on the patient's assuming the horizontal position when placed in bed. This is especially true of capillary oozing from adhesions.

The drainage, as has been urged by Price and others, is not only valuable as a sentinel, but has a direct hemostatic power. All recognize the necessity of a clot, firm in character, to control oozing or even bleeding from larger vessels. Blood in the air-tight peritoneum, in the presence of a peritoneal temperature and abundance of lymph, will not coagulate quickly or at all firmly, as all will agree who have opened the peritoneum in cases of ruptured tubal-gestation or other conditions where there has been a free intraperitoneal bleeding.

A drainage tube in suspected cases for a few hours will do no harm and will surely give the indications of a hemorrhage. If the bleeding is from small vessels, the keeping of the peritoneum dry will be a potent factor in controlling the bleeding. Of course, the tube should not be used unless some reason is present for its use.

While the tube is of much use in suspected cases, its utility is lost in the case where a hemorrhage occurs in a patient in which such an accident is not expected. Thus, my three post-operative hemorrhages have been in easy cases where such was least expected. My other secondary operations for bleeding have been in patients of other surgeons. I was called in their absence, saving the patients in each instance.

The symptoms of a concealed hemorrhage are very much like those attending shock, and, if the symptoms alone were relied upon to make a diagnosis, many errors would result. The pulse is increased in frequency in both, and diminished in force equally in the two conditions. There is a sighing respiration in each, the features are pinched and the surface is blanched in the two, the skin is clammy in both, the patient is comfortable and indifferent in each, the pupils are dilated and respond slowly in either condition.

How is the diagnosis best made? Take, for instance, a fairly strong patient, remove an ovarian tumor from that patient, occupying from fifteen to twenty minutes in the operation. There are no adhesions, there is a small pedicle, a silk ligature is used, and the patient is put to bed in good condition at 9 a. m., with the pulse 80, the temperature 98 F., and with no shock. Now visit this patient at 3 p. m. the same day, and find her with pupils dilated, features pinched, free from pain, the skin white as marble, the lips shrunken and pale, the pulse 160 and very compressible, with a cold, clammy perspiration, all symptoms of shock or hemorrhage. Analyze the history of this case, and experience will say that a patient leaving the table in the condition of this patient, having had no evidence of shock or anything done to produce shock, has an internal bleeding from a broken or slipped ligature; the doubt, if any existed, should be quickly dispelled by cutting a suture and introducing a tube or an artery forcep.

Take another case: Extensive bowel adhesions have been separated in enucleating a growth, the operation is a very long one, the patient is more or less shocked at the completion of the operation, this condition continues until it assumes an alarming state, and the question arises: Is this a continuance of the shock, or is it in part, or altogether, due to a bleeding? If a tube had been introduced, no doubt need exist, but in the absence of the tube there is nothing absolutely reliable to guide us but the cutting of a suture and opening a small portion of the wound. This can be done with absolute safety.

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* Read in the Section on Obstetrics and Diseases of Women, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

On the other hand, if this patient had left the table in good condition, and a few hours later presented the shock-hemorrhage picture, it would be quite safe to diagnosticate hemorrhage and act accordingly. As a rule, the first evidences of shock begin during the operation, and many cases of secondary shock in reality are cases of post-operative hemorrhage. Each case is an individual; the experience of the operator and his knowledge of what was done, and who did it, will lend much aid in determining the cause of the symptoms manifested, as well as the probable location of the same, if from a bleeding surface or vessel.

If convinced that the patient is bleeding and that the loss of blood will prove fatal, the surgeon's only duty is plain, and he should not shirk it, while giving strychnin, using hot applications, etc. The patient is not safe until the bleeding is controlled. I do not mean a slight oozing such as we often see in the tube in adhesion cases, but by hemorrhage a loss of blood that *quickly* shows its dangers by the rapid failure of the patient's vital forces.

It has been my misfortune to lose one patient operated on from a hemorrhage coming on a few hours after ligating a small pedicle with catgut. The abdomen was reopened, but the patient was dead or had ceased breathing when I had begun. The abdomen was full of blood. I have reopened the abdomen in two of my cases besides this fatal one; in both large quantities of blood were lost, but in both recovery followed. In two cases in the practice of other surgeons I reopened the abdomen, saving both patients.

The proper use of the deci-normal saline solution in restoring patients in cases of shock and loss of blood is one of the most valuable additions to our work within the last few years. Its application is so simple and easy and its powers for good are so large that I am surprised that it is not more extensively employed by the profession. The introduction of air into the vein at time of infusion should be avoided, yet the danger from this source is not so great as is generally supposed. In one of my cases a faulty apparatus permitted a large amount of air to enter the vein. This was done by one of the nurses handling the bulb of the apparatus in such a manner that it let in air. Not a symptom was produced by this accident. I have in all my cases, save this one, used an ordinary fountain syringe and the cannula of an aspirating outfit or, as in one case, the glass nozzle of an ordinary medicine dropper. Everything about the apparatus must be carefully sterilized. The salt should be baked and the water, when possible, filtered and always boiled. The height of the fountain will govern the pressure. Usually a 3-foot pressure is all that is necessary. The fluid must be kept at a uniform temperature of 112 F. in the bag. A lower temperature will frequently cause the patient to "chill." I think it best to introduce the fluid in two sittings where a large amount is necessary. About 90 grains of common salt to a quart of water is approximately a "deci-normal saline solution."

CONCLUSIONS.

1. In diagnosticating post-operative hemorrhage the operative history will aid much.
2. The symptoms of shock and those of hemorrhage are very similar.
3. In suspected cases the cutting of a single stitch in the incision will tell.
4. The surgery must be quick and decisive in these cases.
5. In cases in which bleeding is expected the tube should be used.
6. Large quantities of deci-normal saline solution will save many patients. This should be used both per rectum and by injection into the veins.
7. Strychnin, belladonna, etc., will not control bleeding from a uterine or ovarian artery any better than from any other artery.
8. The surgeon should do what his surgical conscience tells him is right. Late researches in hematology make it appear that an internal concealed hemorrhage may be demonstrated by a careful blood-count. This, it is stated, will show a decrease in the red cells and an increase in the white.

Very similar symptoms accompany shock from various causes, such as internal hernia, etc., none of which produce a change in the red cells. If an operation was performed for the relief of an inflammatory process, this test would lose its value in part, as there would exist at the time of operating a leucocytosis. Saline infusions apparently increase the white cells at first.

DISCUSSION.

DR. L. S. MCMURTRY, Louisville.—In my brief remarks I shall allude to the prevention, diagnosis, and treatment of this condition. We all recognize that post-operative hemorrhage is due to either a broken or a slipped ligature. In my judgment, it is rarely due to the former, and almost invariably due to the latter. I must disagree with the essayist that the ligature material used has much to do with the causation of hemorrhage. I myself, like the essayist, prefer silk, but I recognize the fact that there are gentlemen present who use catgut uniformly, and they can show just as few instances of post-operative hemorrhage as can those who use silk exclusively. After all, it is not so much the material used as the method of application. The man who is in the habit of using one kind of ligature gets accustomed to it and applies that ligature with more celerity and security than if he changes his method frequently. A man who is in the habit of applying catgut to a pedicle or vessels will succeed just as well as he would with silk. Care must be observed in the application of a ligature. For example, in the operation for the removal of uterine fibromata the broad ligaments are usually in a state of great tension, and if the ligatures are then applied and divided, you are inviting the accident of slipped ligatures because just as soon as you relieve the tension, the tissue shrinks and the ligament is apt to slip out of the grasp of the ligature. This accident can be prevented by securing the broad ligament with clamps, and then when there is no tension apply the ligature, place it carefully home, and make sure that it is of good and tested material. As to the prevention of this accident, then, it depends for the most part on the care and surgical precision with which the ligature is applied.

The diagnosis is to me a matter of great difficulty, and the importance of it can not possibly be exaggerated. Secondary operations in the abdomen are fraught with the greatest peril. A patient who has had an operation performed on one day and is obliged to submit to another on the next day can not be expected to bear up under the severe strain and shock. These patients will usually collapse and die, even though the post-operative hemorrhage for which the operation is performed, may have been very slight. You can take a woman with a ruptured tubal pregnancy and with the abdomen full of blood, open the abdomen, occupying nearly an hour, perhaps, in doing so, and she will not have the same amount of shock. The question of interference for the prevention of post-operative hemorrhage is the most difficult, in my judgment, that the surgeon has to decide. Lives have been lost by deciding to do it, and lives have been lost by deciding not to do it. The question must be decided with great care and deliberation. In neurotic women, the circulation and respiration are markedly increased in rapidity after abdominal operations, and it will test the judgment of the most experienced surgeon. Patients with rapid pulse, sighing respiration, neurotic temperament, exhibiting the symptoms the result of neurotic influences, will so simulate post-operative hemorrhage that it will require the greatest care and judgment when making a diagnosis. Therefore, it must not be decided hastily.

The intravenous injection of normal salt solution should never be done when it is possible that the hemorrhage is still going on, because it will be increased on account of the open vessel. The treatment should consist in operative interference decided carefully and judiciously, and which should be executed promptly and rapidly. I do not believe with the essayist that the amount of blood lost should be an indication for or against the interference in post-operative hemorrhage. Oftentimes you will find profound collapse and death occurring from the loss of almost an insignificant quantity of blood. On opening the abdomen of a woman who has had one operation which was followed by symptoms of hemorrhage, you will sometimes be surprised to see how little blood has been lost. There may be just oozing from the venous surfaces, and which will lead to disatrous result. I have opened abdomens and found pedicles intact, but on the side of the pelvis where the adhesions were severed, there was a little trickling of venous blood, and the patient almost gone.

Prompt hemostasis must be performed, and you can not expect to tie vessels when there is oozing, but arrest hemorrhage by quickly packing the entire cavity with gauze. There is no procedure in this department of surgery that requires the exercise of such good judgment and judicious action as is required in the treatment of post-operative hemorrhage.

Dr. Seth C. Gordon, Portland, Maine—Since 1884 I have used no suture or ligature except catgut, with the single exception of silkworm gut, for the closure of abdominal wounds. I believe the time is coming when we are all going to use absorbable sutures and ligatures. In my own experience, I still have to see the first intraperitoneal hemorrhage. I never tie off the pedicle without using a needle, threading one end of a long ligature and carrying it through the pedicle below the ligature, then double-wrapping and firmly tying it. In all cases of hysterectomy, where I am to remove everything, I ligature with the needle as described. I put on the clamp and commence my first ligature by tying the ovarian artery tightly, then carry my needle below that, make another knot, which prevents hemorrhage. The rest is the same, over and over, down to where I cut off the uterus. It is all done with one suture. I certainly would not use a drainage tube in order that I might be protected against pelvic hemorrhage.

Dr. Howard A. Kelly, Baltimore—I am very glad to hear this timely subject brought up for discussion. My former associate in the Johns Hopkins Hospital, Dr. Clark, who is here, will probably recall a case we had some six years ago, where eight days after the operation a woman died from hemorrhage from the right uterine artery, which autopsy showed to be due to the absorption of catgut. Since that time I have preferred to use absorbable ligatures upon what I call cardinal vessels, the two ovarian and uterine arteries. Furthermore, I see no reason why we should desire any other material than fine silk aseptically used; with that, and with gloves worn at the operation, the ligatures will never trouble you afterwards. It is of extreme importance in this work to avoid the antiquated method of tying the pedicle by a ligature which transfixes it and is then tied both ways. The proper ligation of the ovarian pedicle is one ligature at the brim of the pelvis, and the other at the uterine cornu. It is as a rule best to put two ligatures upon all the principal vessels. The most important step of all in the avoidance of hemorrhage is the thorough systematic review of the entire field of operation before closing the abdomen, looking over all ties, and pronouncing a definite judgment on each step of the operation.

The best assurance that there is not going to be any hemorrhage lies in the satisfactory conduction of the operation, so that when the patient lies later in a collapsed condition, and the assistant or nurse is rather doubtful as to whether there is any hemorrhage, the operator can say with positive assurance that he knows there is none. The operator and his assistants ought to inspect the patient carefully as she leaves the table; to examine the pulse and the mucosæ, to get an exact idea of her condition, and in order to make comparisons later to determine whether much blood has been lost. If the operator is unable to say whether or not there is hemorrhage, open up the patient at once, and see. If the patient is a collapsed neurotic, it will not hurt her; but if she has hemorrhage, prompt action will save life.

I give salt solution under the breasts, and as the patient goes onto the table. Do not stop to pick out the exact seat of the hemorrhage. You know which vessels it may come from; therefore, go down into the pelvis with fingers and clamps, catch them all, both uterine and ovarian, then clean out the blood and search for the particular source of the hemorrhage.

Dr. Henry O. Marcy, Boston—I believe that hemorrhage is usually the fault of defective technique. First, the vessels should be sought for and ligated. Then, it is important to suture the tissues over the vessels of these larger wounds so as to have additional control over the ligatures. I earnestly advise the folding of the peritoneum over the stump, as it also prevents hemorrhage, and the possible subsequent adhesions, which otherwise may result. I emphasize this from the standpoint of experience. I believe my best contribution to surgery is the buried animal suture, which I first employed in 1870, and have used it almost daily since. Until 1882 I used only catgut, and with reasonably satisfactory results, but in the long experimental studies that I made on animals, I found that catgut was absorbed much too rapidly, and that the knot is not satisfactory. Then I introduced the tendon suture, as a substitute, which I consider in every way superior.

I take issue with Dr. Kelly in regard to the rubber gloves and the silk, as they do not always prevent the condition he speaks of. I have often found that silk ligatures give rise to irritation and serious subsequent trouble. I am convinced that we should use only absorbable ligatures and sutures, and in such a way that we may be doubly sure that we have control of hemorrhage before the patient leaves the table. We should intrafold all abraded surfaces in pelvic or abdominal wounds, so that we may not have the condition Dr. McMurtry referred to, namely, oozing surfaces. Faulty technique is undoubtedly the most frequent cause for the occurrence of complications of any kind. I have used buried animal sutures in fully three thousand cases of abdominal operations, and I assure you that I have yet to see any reason why I should not be more than ever an enthusiastic advocate of their general adoption in all aseptic surgery.

Dr. Frederick Holme Wiggin, New York City—I have found chromicized catgut No. 1, or No. 2, to be a much more satisfactory material for ligature or suture than silk. In former years much trouble frequently resulted from the use of silk for this purpose, not only in my own work, but in that of others. Frequently, in the course of my service at the City Hospital in New York, in past years, I have had occasion to remove silk ligatures and sutures employed by other surgeons at previous operations, but at the present time, since the use of catgut for suture and ligature material has become to be more generally used, these operations are becoming infrequent. If chromicized catgut is used, taken direct from the alcohol in which it is preserved, there should be no trouble in its being absorbed too soon or of its infecting the tissues. It has been my practice, whenever possible, to pass ligatures around the vessels to be tied by the aid of a needle, and when this is done and the catgut properly tied, there is no possibility, in my opinion, of their slipping. One of the causes why ligatures of catgut or other material slip is that there is too much tension applied to the parts when the ligature is being tied. Another reason why operators often fear to use catgut ligatures is because they find when they tie them the knot frequently comes undone. This is because they do not understand how to make the knot. They tie the catgut ligature as they would one of silk, namely, with a double loop first, followed by a single one. When the knot is tied in this way, it will very often become undone. Some years ago, Dr. C. C. Frederick, of Buffalo, called my attention to the fact that catgut, tied first with a single knot and then with a double surgical knot, the ends of the catgut being left reasonably long, would never slip. Since that time I have used catgut for ligatures entirely in my work, and have had no reason to regret its use.

The surgeon should aim, in my opinion, to tie the vessels as directly as possible, including as little other tissue as is absolutely necessary.

I would like to call attention to the following important point: Where abdominal operations are performed on patients in the Trendelenburg posture often when the operation is completed there is apparently no hemorrhage, but in many cases when the patient is lowered into the horizontal position, you will find on looking about the pelvis, bleeding points. I have often found that if I had not been careful in looking over the field of operation after the patient had been lowered into a horizontal position, I would probably have lost the patient from hemorrhage.

I believe that when catgut is probably used, there is no danger of hemorrhage occurring from vessels tied off with it.

Dr. C. C. Frederick, Buffalo—I have used catgut exclusively for ten years, and in nearly a thousand cases, and I had only one case of slip ligature. That was in a vaginal hysterectomy where the pedicle had been pulled down a great deal during the operation. I believe that was the cause for the ligature slipping.

As to the point made by Dr. Kelly, that the catgut absorbs too rapidly, and that the plug occluding the vessel may be extruded by arterial pressure, and then have hemorrhage, I think that possibly may be true. Formerly, the catgut was sterilized by the Cumol method or alcohol under pressure, being raised to a temperature of 212 and above, rendering it rapidly absorbable. With the modern method of sterilizing, however, I am positive that the catgut is rendered more durable in the tissues. I refer to the formalin process. I know positively that the catgut so prepared is not absorbed until two or three weeks afterwards, hence Dr. Kelly's objection to it cannot be sustained.

Insure against slipping of the ligature by drawing the first knot up tight, and then make the double knot. Do not cut the ends of your ligature too short. There is absolutely no objection to leaving one-half or even three-quarters of an inch of catgut. It aids in preventing the slipping. That is the method I have followed in all my cases.

Dr. M. L. Harris, Chicago—I wish to enter my protest against the ligation *en masse* of large pedicles. There is scarcely a place nor time in abdominal or pelvic surgery where this is necessary. In most cases where secondary hemorrhage has occurred it will be found that the ligature has been applied to the pedicle *en masse*. We should invariably follow the sound surgical rule of applying the ligature directly to the artery or the bleeding vessel. If we ligate *en masse*, the tissue about the vessel may shrink, releasing the vessel, and hemorrhage is sure to follow. In all cases where there is a large mass which bleeds, this should always be closed by a suture, passed with a needle, and in a continuous manner. This will prevent not only the hemorrhage from the vessels, but also the oozing. I think there is no time or place in abdominal or pelvic surgery in which the mass ligature should be applied.

Dr. G. B. Massey, Philadelphia—It seems to me that one side of this question has been somewhat neglected, namely, the future effect on the patient of the material used as a suture. The question of secondary hemorrhage brings up that of the relative value of absorbable and non-absorbable suture materials, but the discussion has been neglected on that side of the question which comes closest home to those of us who are not surgeons, and who see these cases after they leave the surgeon, sometimes years afterwards. I allude to cases of so-called post-operative neuroses. I have seen many of them, and have one under treatment now, in which the suffering seems to have been caused by some irritable focus situated in the uterus, which is partly removed. There is a tender mass in the situation of the remainder of this organ about the size of half a walnut. This patient was operated on six years ago, and since then she has been obliged to spend her mornings recumbent. I do not know what kind of sutures were used, and I merely wish to emphasize that there must be some reason why the surgeons are changing their suture material. I do not believe that non-absorbable material should be left in the body if it can be avoided. Something ought to be used that will disappear by absorption.

Dr. Cordier (closing the discussion)—The principal object of my paper was to call attention to the fact that we must not trust too much to nature in controlling hemorrhage. It is surprising how much we do risk in these cases when we would not think of risking anything in the axilla or popliteal space. Frequently, in abdominal operations, we let oozing go on and trust to nature.

Another point is the question of diagnosis. You find that they will frequently say that the patient was placed back on the table and the incision reopened in order to determine the existence of hemorrhage. This is useless. If the question is whether you have an intraperitoneal hemorrhage, it is necessary to have everything thoroughly sterilized and keep the patient in bed, so as not to disturb her. Clip a stitch and introduce a long sterilized forceps into the wound and detect the hemorrhage. That is the easiest and safest way in which to determine it.

I would never think of using a saline solution while the operation is going on, as the vessels are all widely open and it would simply increase the hemorrhage. However, the hot solution thrown into the rectum is very beneficial in these cases. It matters not what ligature material you use. We always find a diversity of opinion on that subject. A number of gentlemen have talked about absorbable material, and each one has a different opinion as to what should be used, and how. We are dealing with an uncertainty, as regards hemorrhage, when we tie a pedicle with catgut ligature. I have seen them absorb in three days, which is certainly too soon. In regard to the mass ligatures, I do not know how we can get around it; we sometimes have a very broad pedicle and time is an important factor. If you want to undertake and divide these tissues, picking out the individual vessels, you will take up a great deal of time. I do not see any reason why we should not use the mass ligature. One of the safe courses in the use of silk is to tie in a mass ligature, so that the structures will overlap the ligature, and the two surfaces above and below come in contact, and the pedicle remain alive. It will get up an anastomotic circulation, and the ligature will remain clean. When you get silk infected you can not tell what will become of it. The same applies to chromicized catgut, tendon, etc. I have seen it working out of a hernia case twelve and fifteen months after the operation, and I am sure that it is less certain than silk. Where you use silk, you do not have to dance around and see how to use it. Put on a good stout piece of sterilized silk, and in the majority of cases you will have no hemorrhage.

Hemostasis of the Liver.—Baldassari inserted wedge-shaped fragments of decalcified bone between the lips of the wound in the liver, in his experimental research on dogs. The wound was then sutured, including the intermediate bone in the stitches. When the animals were killed later there were no evidences of the slightest oozing of blood or hemorrhage from the wound, and the bone was absorbed, cicatricial tissue taking its place. The bones were rinsed in an acid, then in 50 per cent. alcohol containing a little sublimate, and finally soaked in a hot saline solution to remove the sublimate and soften them.

THE ADVANTAGES AND DISADVANTAGES OF DRAINAGE AFTER ABDOMINAL OPERATIONS.*

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If the short paper which I present to you to-day is productive of any good results, personally, I look for them not so much from the paper itself as from the discussion which I hope it will inaugurate—"many men, many minds." I do not expect that all my hearers will agree with the opinions which I have formed after some years' experience, and I trust that to-day the views of not a few will be freely expressed in order that the subject may be thoroughly thrashed out. In short it would seem advisable for us to hold what may be termed an "experience meeting" and my remarks may simply be looked upon as prefatory to what I hope may be a full and fruitful discussion. I shall speak briefly of work done by others and by myself sometime ago, and shall supplement this by my own experience in two series of cases, in the first of which there were 114 and in the second 108 consecutive, unselected, abdominal sections without a death.

During the past few years our ideas regarding the necessity for and the efficacy of drainage in abdominal surgery have undergone the most radical changes. Not so very long ago we did not venture to close the wound of any abdominal section absolutely but left in a large tube which reached well down among the tissues. It was then thought that infected cases—such, for instance, as pelvic abscess—could never recover without drainage, and that even in the cleanest cases it was always well to insert the tube for at least a few hours until the so-called serous oozing had ceased, in order not to tax too severely the absorptive power of the peritoneum.

In a paper published in 1890 I summarized the indications for drainage as follows: 1, to provide a means of escape for the serous oozing which follows the separation of broad adherent surfaces; 2, to guard against septic peritonitis from retained pus from the tube, ovary, or other viscus; 3, to remove fluid in cases of persistent capillary hemorrhage; 4, to provide against hemorrhage in cases of hysterectomy when the pedicle is dropped; 5, to drain the peritoneal cavity and starve out the disease in cases of chronic or tubercular peritonitis.

But after our attention had been called to the importance of taking more pains with the minute operative details; after we had recognized the necessity of checking all hemorrhage, even from the smaller bleeding points, of avoiding any infection of the field from the contents of abscesses or of the intestines, and of making a careful peritoneal toilette; above all, since we have understood the effects of any rough handling of the tissues, we have come to look upon the necessity for drainage as being the exception rather than the rule.

Again, in 1891, after having made a series of bacteriologic examinations of the secretions found in the drainage tube and upon the gauze placed in the tube for drainage, we became convinced that the drainage-tube was frequently the avenue through which septic infection took place. In many instances the fluids in and around the tube would contain few or no bacteria at the first examination, whereas upon a second or third examination many micro-organisms were found in the secretions thus examined. As a consequence of these and similar results the objections to the insertion of drainage-tubes were formulated by Professor Welch of the Johns Hopkins Hospital as follows:

"1. They tend to remove bacteria which may have gotten into a wound from the bactericidal influence of the tissues and animal juices. 2. Bacteria may travel by continuous growth or in other ways down the sides of a drainage-tube, and so penetrate into a wound which they otherwise would not enter. We have repeatedly been able to demonstrate this mode of entrance into a wound of the white staphylococcus found so commonly in the epidermis. The danger of leaving any part of the drainage-tube exposed to the air is too evident to require mention. 3. The changing of dressings necessitated by the presence of drainage-tubes increases in proportion to its frequency the chances of accidental infection. 4. The drainage-tube keeps asunder tissues which might otherwise immediately unite. 5. Its presence as a foreign body is an irritant and increases exudation. 6. The withdrawal of tubes left for any considerable time in wounds breaks up forming granulations—a circumstance which both prolongs the process of repair and opens the way for infection. Granulation tissue is an obstacle to the invasion of pathogenic bacteria from the surface, as has been proved by experiment. 7. After the removal of the tube there is left a track prone to suppurate and often slow in healing." To these Professor Halsted has added: 8. "Tissues which have been exposed to the drainage-tube are suffering from an insult which more or less impairs their vitality and hence their ability to destroy or inhibit organisms."

But besides increasing the chances of infection, drainage not infrequently gives rise to various post-operative complications. Of these Clark mentions, 1, obstruction of the bowel; 2, fecal fistulæ; 3, vesical complications; 4, post-operative herniæ.

When an abdominal wound became infected subsequently to an operation, it was formerly thought that this result was due to micro-organisms already present, it might be in a pelvic abscess or in the secretions about the uterine adnexa. Undoubtedly this mode of wound-infection may occur, but it should be remembered that in a very large proportion of the cases of pyosalpinx the pus found in the tubes or ovaries is sterile, any organisms which had before been present being dead. This fact has been proved many times by examination of smear cover-glass preparations and the study of cultures made at the time of the operation.

Moreover, in cases in which pus is found at the time of operation we must never forget the *vis naturæ medicatrix*, more especially when we are dealing with the peritoneum. It is a well-known fact, and one proved by the most conclusive experiments, that under normal conditions the peritoneum can dispose of pyogenic organisms in no inconsiderable quantities without the occurrence of peritonitis. Nor must it be forgotten that our drainage does not by any means always remove all foreign fluids and infectious matter, so that in not a few cases its employment will offer all the many disadvantages referred to above, without effecting our main object. Thus Clark says: "By the introduction of the drainage material the peritoneum is handicapped in three ways; 1, the normal peritoneal currents are disturbed, consequently the circulation of fluids and foreign matter toward the diaphragm is retarded; 2, a reactive inflammation is set up about the drain, limiting and impeding the action of the peritoneum; and, 3, within a few hours the general peritoneum is cut off from all participation in the work of absorption by the wall of adhesions around the drain. In place of the natural agencies the work is thrown upon an agent which at best can only remove the fluid from a small pocket. The old illustration cited in favor of drainage, of the gauze wick emptying a bowl of water by capillary attraction, is delusive. The syrup-like serous or bloody fluid, which quickly coagulates and fills up the meshes of the gauze, almost entirely checks the capillary action. A limited quantity of fluid will be removed during the first two hours, but after that the drain acts like a plug by preventing the outflow of fluid, which then accumulates in the dependent pockets. In many instances we have found these encapsulated collections of infected matter within a half-centimeter of a drained tract."

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* Read in the Section on Obstetrics and Diseases of Women, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

The methods for prevention or the removal of infective material without the employment of drainage may be summarized as follows: 1, a thoroughly aseptic technique; 2, the controlling of all hemorrhage and oozing as far as possible; 3, careful manipulation, so that all unnecessary bruising of the tissues is avoided; 4, a perfect toilette of the peritoneal cavity; 5, the removal as far as possible of infectious foci; 6, the use of irrigations with salt solution; 7, if necessary the reopening and thorough cleansing of the cavity; 8, proper after-care of the patient.

In my clinic we have practically abandoned the employment of drainage in abdominal cases, and for the past seven years we have not used a glass drainage-tube. We have, however, drained by means of gauze on several occasions in which it has been impossible to control the bleeding, and also in those cases in which we have met with a rupture of the bowel during the operation, and it has been an exceedingly difficult task to close the tear.

If symptoms should arise after an abdominal section as the result of the absorption of septic material that has been introduced at the time of the operation, or from remnants of the original diseased foci, we have plenty of time, as a rule, to reopen the abdomen and wash it out again and then if necessary to institute drainage in order to prevent the absorption of more septic material into the general circulation. Such cases are, however, fortunately very rare, and if we employ drainage as a routine in order to anticipate such a condition, we run many risks of infecting the patient. In 222 consecutive cases we used drainage in only one instance, and in this case we punctured and drained through the vagina and also placed one piece of gauze in the lower angle of the incision in the abdomen. A large pus sac was present, which it was impossible to remove; it communicated with the peritoneal cavity and the vagina at the same time. In attempting to open the sac through the vagina an opening was also made into the peritoneal cavity, and since the sac would have drained into the peritoneal cavity we evacuated the contents by the vaginal puncture. Even in this case I do not consider that it was absolutely necessary to have drained through the abdomen.

With this single exception—in 222 cases—we have closed the abdomen in every instance, without drainage. In these two series of 222 cases we have met with pus in 65 cases (28 per cent.), varying in quantity from a few cubic centimeters to several liters. After having drained from 15 to 75 per cent. of cases previous to 1893, and for the past seven years having practically abandoned drainage, my observations lead me to emphatically state that patients certainly, as a rule, do very much better if drainage is not used. Not only have the immediate results been better, but the ultimate results, such as the occurrence of hernia and intestinal adhesions, have been avoided.

ACTINOTHERAPY IN CUTANEOUS MEDICINE —A PRELIMINARY COMMUNICATION.

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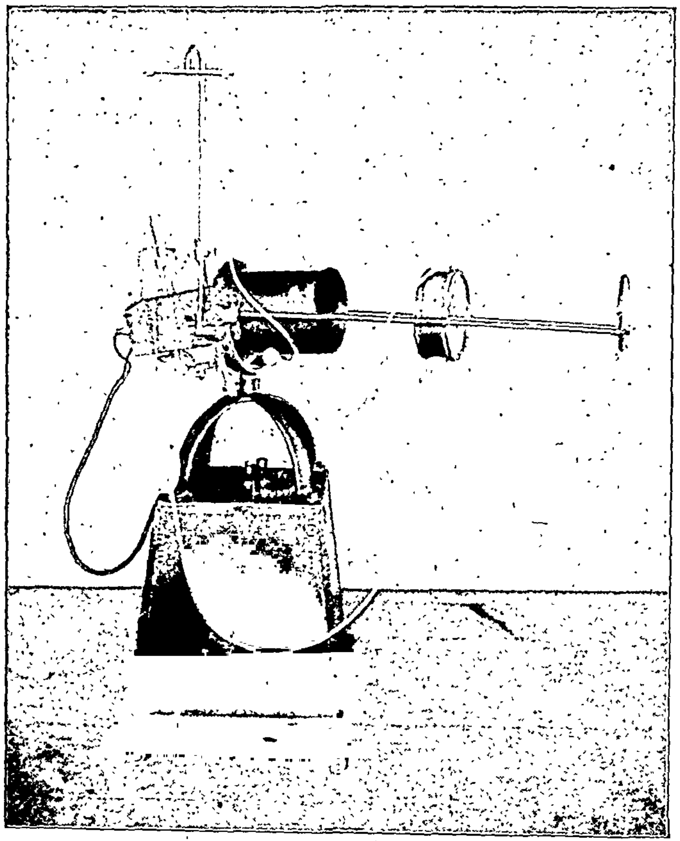
The employment of light as a therapeutic agent is no new thing in medicine. The best term to employ for the treatment in general is Phototherapy. The use of that especial form, the discovery of which has immortalized the name of Roentgen, is generally known as Radiotherapy. Actinotherapy seems to be the most suitable designation for the employment of the ordinary sun or arc light, or portions of their rays. It is to this latter that I desire to call attention.



THE ACTINOLYTE.

To go no further back than the time of General Pleasanton, most of us recollect the "blue glass craze" that swept over the land. Wonderful therapeutic results were attributed to its use; and isolated specimens of the blue glass panes that then appeared in so many windows may still be seen. But Pleasanton and his followers truly saw "as through a glass darkly"; their method was not only empirical, but was developed largely by persons who had no medical knowledge; and it never, therefore, obtained the general recognition of the profession.

The bactericide action of light is now an established and well-known fact. Cultures of many virulent and pathogenic microbes die in a short time when exposed to properly concentrated light. Axel L. Larsen[1] has lately gone over the ground again with the pus organisms, the colon and typhoid bacilli, etc., and has endeavored to determine with exactitude the time required to weaken and destroy them with given concentrations of light.

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[1] Mittheilungen aus Finsens Medicinske Lysinstitut, 1900.

But this is by no means its only action, and probably not even its chief one. It irritates the cutaneous nerves and so affects the central nervous system. It increases the oxidation processes in the cells and the amount of hemaglobin in the blood. The heightened tissue metamorphosis is possibly the factor on which its future therapeutic application will be based.

The ordinary phenomena of transillumination show that light penetrates the skin. Contact photographs have repeatedly been made by means of light that has passed through the human body, notably by Kime, of Fort Dodge, and H. L. Mason, of New York. Glass tubes containing sensitive silver salts have been introduced under the skin of animals, and have shown the characteristic effects of light penetration on removal.

To Niels R. Finsen of Copenhagen, however, belongs the credit of developing the light treatment and placing it upon a scientific basis. Since the time, now several years ago, when he recorded the good effects that he had gotten in variola from the employment of red light, he has been an indefatigable worker in this field; and to-day his Actinotherapeutic Institute in Copenhagen has a world-wide reputation and enjoys the active support of the Danish government.

I shall leave out of account, as foreign to the object of this preliminary paper, the work that has been done in other than dermatological fields with the new treatment, or an account of the various forms of apparatus that are employed. Suffice it to say that Helm,[2] Gerson,[3] Morris,[4] and Finsen, Bie and their collaborators in numerous publications have employed it in many varied dermatoses with a large proportion of good results. Besides lupus and the various dermal tuberculoses, in which it is possibly destined to be the treatment par excellence, it has been used in lupus erythematosus, psoriasis, epithelioma, acne vulgaris, rosacea, alopecia areata, eczema, ringworm, contagious impetigo, and various ulcerations, with success.

Either sunlight or the electric arc can be employed; but the former is too uncertain in most parts of our country to be relied upon. The chemical or actinic rays of the more refrangible end of the spectrum are the elements from which therapeutic effects may be expected; and we have fortunately in the electric arc a source of light which is accessible in all our large centers at any time, and which is especially rich in them. Sunlight is cheaper, of course, but it is only in regions like California or New Mexico, where it can be relied upon for a great part of the year, that the expense of installing a sunlight apparatus would be warranted. The arc light can be employed on cloudy days, or in the evening, and this leads me to mention and dispose of one apparent disadvantage of the process.

The actinotherapeutic treatment takes time; of that there can be no doubt. But I am convinced that it does not even now require the hourly sessions every day which Finsen gives his patients. Were that the case, then, no matter what its advantages, it would have to be relegated to institutions where the necessary elaborate arrangements for the simultaneous treatment of a number of patients could be made. Increase of the amperage employed, and the reflexion and concentration of all the available rays upon the area to be treated has enabled me already to reduce it very materially, and I have no doubt that further progress in that direction will very shortly be made. I now give half-hourly sittings every other day. The question is solely one of actinic light intensity.

I employ the instrument manufactured by a firm of this city, and called by them the Actinolyte. It consists essentially of an arc light with the necessary arrangements for automatic action, enclosed in an iron hood. In front of the arc is a double convex condenser, adjustable for focusing purposes by means of a rack and pinion. On rods that project in front from each side of the hood is a double convex focusing lens, also adjustable. By means of these condensers a circle of light of any size can be readily obtained; of course the smaller it is the more intense is the illumination. The hood is swung in such a way that it can be raised or lowered, and swung laterally and vertically, thus making it possible to project the light spot with exactitude upon the area that is to be treated.

On the front bars and between the hood and focusing lens is a cell for the purpose of containing the fluid to cut off the heat rays. This can be filled with distilled water, or methylene-blue or alum solution, or it may be connected with the two water-bags for which arrangement is made, so that a continuous stream of heat-absorbing fluid may flow through the cell. So far I have found plain cold water without continuous flow quite sufficient to prevent any unpleasant heat effects from the concentrated light.

The base of the instrument contains a suitable rheostat, with a selector on top. Either the continuous or alternating current may be employed, and from 25 to 55 amperes of current can be used. The candle power varies, of course, with the amperage. With a concentrated circle of light it runs from 20,000 to 60,000.

I am not prepared as yet to make a definite statement of the results obtained with the treatment, save in two cases. In one extensive lupus vulgaris they promise to be brilliant. The one area that has been treated, some 2 inches square, presents a marked contrast to other locations where the disease is progressing. It is almost white, only two or three lupoid nodules remain, and they are disappearing. This has been accomplished without ulceration, or even inflammation, the process has been entirely one of interstitial absorption. All the other areas are characteristically infiltrated and scaling. The patient has had absolutely no other treatment.

The second case was one of obstinate tertiary syphilitic ulceration of the leg. The light had an apparently good effect in stimulating the indolent glazed ulcer, so that it is now nearly healed, after resisting other internal and local treatment for weeks.

The advantages of the method are: 1. It is eminently conservative. It causes no radiodermatitis, ulceration, or loss of hair, such as too often, though sometimes necessarily, occurs under the Roentgen treatment. I do not know of the record of any serious trouble from its employment. Finsen rightly lays stress upon this point, and to dermatologists it is of especial importance, since many of the affections that they are called upon to treat occur upon the face. 2. It is entirely painless. This is a great desideratum, more especially in dealing with women and children. 3. It is effective. New as the method is, there is already concurrent testimony from a sufficient number of competent observers to demonstrate that we possess a powerful therapeutic agent in concentrated light.

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[2] Deutsche Medicinal-Zeitung, No. 100, 1900.

[3] Archiv für Lichttherapie, I, No. 3.

[4] British Journal of Dermatology, August, 1900.

Leaving to others the study of the effects of actinotherapy in the general conditions and affections of the internal organs in which it may prove useful, it is to be presumed that by dermatologists it may be employed in the various skin affections that are dependent upon micro-organic or parasitic infection, or where increased tissue metamorphosis is a desideratum. Lupus vulgaris, lupus erythematosus, mycotic eczema, trichophytosis, favus, impetigo, furunculosis, tuberculosis cutis, epithelioma, mycosis fungoides, blastomycosis, actinomycosis, and similar affections are the diseases in which it is likely to prove useful.

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A NEW OPERATION FOR REMOVAL OF CANCER OF THE RECTUM.*

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The situation of the rectum, placed as it is deep in the bony pelvis, makes it very difficult of access for surgical purposes. Thus far, three routes have been proposed for its removal. As yet no definite decision has been arrived at as to which of these is the best. Each has its advantages and disadvantages, and each has its advocates. The posterior operation, as Murphy very properly says, is difficult, dangerous, and in many respects unsatisfactory; the mortality, he quotes as 21.2 per cent.

The latest proposal for professional favor is that made by Dr. J. B. Murphy.[1] His operation is the resection of the rectum through the vagina. Although the idea of operating by this route is not original with him, yet for the perfected form of the operation we must give him the credit. Murphy's operation seems to have many advantages over the transsacral method. There are no objections attending it except the technical difficulties. These must be very great, but differ, no doubt, with different cases. In an old nullipara they must be almost insurmountable; but when the vagina is roomy and the growth quite low in the rectum, it is probably the best operation which has yet been suggested.

Curiously enough, nobody has yet proposed the resection of the rectum from above.[2] The nearest approach to it which I have been able to find, is the operation done by J. Price, in which, after removal of the neoplasm, he has united the cut end of the rectum with the vagina. This necessitates defecation through the vagina without any sphincter to give control.

The plan which I have to suggest is suitable for cases in which the growth is too high to be easily reached through the vagina, and has the great advantage of leaving the sphincter intact and the movements of the bowels in their natural course uninterfered with. The possibility of the operation depends on the fact that, by the aid of the Trendelenburg position, the pelvis can be emptied of all the intestines, even the rectum and the sigmoid. This gives plenty of space to work, and makes the operation possible.

I was first led to do it by a mistake in diagnosis. A patient came to me with a small mass behind the uterus. She complained of some difficulty and pain on defecation. I thought the mass, which was freely movable, was a prolapsed ovary, as it was about the right size, and that the pain in defecation was caused by the pressure upon the ovary. I, therefore, opened the abdomen with a view to the removal of the ovary; but, on passing my finger into Douglas's pouch, I was surprised to find nothing there. While palpating the parts, I discovered the growth in the rectum. I determined at once to resect, believing that the growth was probably malignant and the cause of her trouble. After removing the growth, I found very great difficulty in sewing together the cut ends of the rectum, but finally succeeded quite easily in placing a Murphy button. Then, with one finger in the rectum and the hand in the pelvis above, I had no trouble in uniting the two halves of the button.

The patient made an uninterrupted recovery, and was examined some time after her return home, and found to be in a perfectly healthy condition.

An account of this operation was published in the *American Medical Quarterly* for 1899, as well as the history of two other cases. In that paper I drew attention to the abdominal method of attacking carcinoma of the rectum, but it does not seem to have attracted any notice. I shall,therefore, draw somewhat upon what I have written before, especially upon the reports of cases.

The second case on which I operated was one of stricture of the rectum due to inflammatory exudate. I had previously resected the patient's small intestine, and one year later she came with a recurrence of the old symptoms. At the time of the first operation, I had noticed inflammatory trouble in the pelvic cavity, but her condition did not warrant its removal. I diagnosed stricture from this cause, and proceeded to resect the rectum at the very bottom of the cul-de-sac, exactly as in the case before. In this case the button came away on the eleventh day, and convalescence was complete. The patient has remained well up to the present time, a period of three years.

My next case was not so fortunate. There was a large mass behind the uterus, half as large as one's fist. On opening the abdomen, I found the mass adherent to the posterior wall of the pelvis. It was easily loosened, and in the Trendelenburg position was cut away, both above and below, and four inches of intestine resected. No difficulty was found in pulling up the rectum and in placing a Murphy button. With the finger of an assistant in the rectum, to steady the lower button, the two halves were easily pushed together. A glass drainage-tube was placed from above, the pelvis having been previously thoroughly washed out with salt solution.

The patient did well for four days. During my absence from town attempts were made to remove the button, but were unsuccessful. Following this the patient developed a general peritonitis, from which she died.

Since this case, I have had two others, both of which were successful. In one of them the growth extended below the posterior edge of the cervix uteri. In order to get it out, it was necessary to cut the peritoneum at the bottom of Douglas's pouch, and to pull the rectum up above its peritoneal investiture. The difficulties of placing the lower half of the Murphy button were greater than in the other cases, but did not offer any insurmountable obstacles. In this case the disease recurred within eight months.

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* Read in the Section on Obstetrics and Diseases of Women, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

[1] Phila. Med. Jour., Feb. 23, 1901, p. 383.

[2] The operation of W. R. Pryor (Gyn. Trans., 1900), although done partially through the abdomen, is for carcinoma of the vagina and rectum, and is, therefore, applicable to a different class of cases.

The last case was about the same as the previous one, the carcinoma being easily reached by the finger in the rectum. The patient remains well at present, after a period of five months.

The technic of the operation, as I have now developed it, is as follows: The rectum and vagina should first be thoroughly cleansed. The abdomen being opened, and the patient placed in the Trendelenburg position, the rectum just above the growth is clamped with a long hemastatic forceps and cut off. The sigmoid flexure and rectum are then pulled out of the pelvis, the meso-rectum being slightly cut away if necessary. This leaves the pelvis entirely free for manipulation of the lower end. If the growth be above the peritoneal investment—that is, above the bottom of Douglas's pouch—it should be cut off low enough to secure all the malignant tissue. The diseased portion is then entirely removed, all bleeding vessels being tied. One or two large arteries usually show themselves at this point. The lower end of the rectum is next seized and drawn up, care being taken not to injure it, as it is very easily torn. It is surprising how much this can be pulled up, and how easily it can be manipulated. It has no peritoneal envelop. There is no difficulty in getting plenty of slack to pull down that portion of the rectum above the resection, even after several inches have been removed, for, as Murphy has correctly stated, "the normal position of the sigmoid is in the pelvis, and not in the left iliac fossa, as is generally supposed."

With a short, round, curved needle—the Emmet vesicovaginal fistula needle is the one I use—a silk suture can be run around the end of the gut. The Murphy button is then placed, the piece with the long projection being preferably put in this position. After this step is completed, the other end of the button is placed in the upper cut end of the intestine and the two are brought together. To accomplish this, the lower end of the button must be held by one or two fingers of one hand in the rectum.

If thought advisable, drainage through the posterior cul-de-sac into the vagina may be made, and a rubber drainage-tube placed in this position. In my last case I resorted to this expedient, and believe that it is a valuable addition to the technic of the operation. The abdomen is closed in the usual way.

If the growth extends below the bottom of Douglas's pouch, the peritoneum must be cut close to the uterus, and the incision carried around the rectum. The rectum, with the portion of peritoneum adherent, can then be pulled well up and incised below the growth. The deeper the growth the harder it is to place the Murphy button; and if the growth extends down as low as the level of the external os, then the difficulties will be found to be very great. This, however, should not weigh, because all operations on the rectum are difficult, no matter what the way of approach may be.

I use the Murphy button for the reason that the making of a tight joint by sewing down in the bottom of the pelvis I find to be very troublesome. It may be objected that where the button is placed in the rectum deprived of its peritoneal envelop, union will not take place. I find, however, that this objection is not valid, as in three of my cases the button was applied to the portion of the rectum below the resection, where it was denuded of peritoneum, and yet two were successful.

The cases in which this operation would seem to be especially indicated are those in which the growth is all above the bottom of Douglas's pouch, though I would not restrict it wholly to such cases. The nearer to the brim of the pelvis, the stronger are the indications for the operation. In one case—a man—I resected in the sigmoid, using the button as before. This, however, I do not count among the cases of resection of the rectum.

Senn, in his work on intestinal surgery, states that resection in the bottom of the pelvis is impossible, and that, for the same anatomic reasons, lateral anastomosis can not be made. My cases would seem to show that Senn's estimate of the difficulties of resecting deep in the pelvis is too high. The Trendelenburg position and the button have made a great change; without them the operation would not be feasible. The usual objections to the button certainly do not count here, as in most cases it is within easy reach, and can be extracted if it does not come away of itself. In my last case I was obliged to remove it, as it seemed to settle into a kind of a pocket and to show no disposition to come away, the bowels, however, moving freely through it.

An instrument which I have found to be of great use in this, and in other operations where the patient is put in the Trendelenburg position, is the self-retaining retractor. In a favorable case, with a moderately long incision, the way in which the interior of the pelvis is made accessible to sight and touch is remarkable.

The Cleveland operating-table is another adjunct which is a great help. This table is so arranged that the operator has easy access to the vagina and rectum while the patient is in the Trendelenburg position.

My friend, Dr. Eugene Smith, surgeon to the Buffalo Charity Hospital, after having seen me operate, has performed the operation once, on a man, and reports that he met with no special difficulties, and that he is pleased with the procedure.

If called upon to limit the indications for this operation, I would say, do Murphy's operation when the lower edge of the growth is less than about one and a half inches from the inner edge of the anus, and in all other cases open above and resect.

I do not claim that this operation is easy under the best of circumstances, but what operation for carcinoma of the rectum is? However, I do maintain that it is feasible and that it gives the best chance to make a clean and complete removal of the neoplasm, and will, therefore, in proper cases give the best attainable results.

DISCUSSION.

Dr. Henry O. Marcy, Boston—I have had no experience in the resection of the lower bowel through an abdominal section. In 1893 I resected the sigmoid for cancer, uniting the segments by a large-sized Murphy button. It came away the twelfth day. I removed a portion of the sacrum and entered the peritoneal cavity from below. The patient died the following year from a return of the disease. This was, so far as I know, the first time the Murphy button had been used in the resection of the lower bowel. My friend, Dr. H. O. Walker, of Detroit, had suggested to me this method of approximation.

Dr. J. Wesley Bovee, Washington, D.C.—I heard Dr. Edebohls read his paper on this subject. The operation was done in a case of cancer of the rectum associated with a pregnant uterus. The operation was preceded by an abdominal hysterectomy, and I would suggest in doing this work in women that a hysterectomy will in most cases be advantageous, inasmuch as it gives the larger field of operation. Dr. Edebohls' case was a successful one. I believe Dr. Mann's conclusions are correct. These cases where the cancer is fairly well up do better by being removed from above than from below.

Dr. Mann, closing the discussion—The subject can not be discussed, as most men have had no experience with it. I think

Dr. Edebohls' suggestion may be of service in some cases by giving a larger field of operation, but in a case of a small uterus I do not think it would be sufficiently in the way to make its removal necessary. A pregnant uterus would, of course, be very much in the way.

THE ACCIDENTS AND COMPLICATIONS OF PELVIC SURGERY AND THEIR TREATMENT.*

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The necessity for a thorough knowledge of the pelvic viscera, their topographical relations, and the pathology of their diseases, is of paramount importance in dealing with the diseased organs intelligently.

The ordinary procedures of complicated pelvic operations may cause so much damage that even the expert may be taxed to the utmost in dealing with them, e. g., the enucleation of an adherent intraligamentary cyst, or where one or other ureter is involved, a careful dissection may be necessary to free it. The ureter may be damaged to the degree that repair can only be accomplished by an anastomosis, or implantation; or where there is troublesome bleeding, for the control of which the uterine arteries may have to be exposed.

The common occurrence of adhesion, the result of inflammatory process involving the pelvic viscera, are of sufficient importance to call for our careful consideration.

The character of the adhesions vary; some are easily separated, while the old and organized ones will call for considerable manipulation to liberate them.

In this connection, the writer begs to state that only by thorough work can the patient be expected to recover, by which, I mean, get permanently well and remain well. The bane of the abdominal surgeon is the formation of post-operative adhesions, therefore it goes without saying, the fewer left at operation, the better the patient's chances against post-operative pain, etc. The ability to do better, safer and more thorough work by the abdominal than by the vaginal route can not be better demonstrated than by raising the question of the importance of disposing of all adhesions in any given case. The vaginal operation has been spoken of as "the dismal swamp procedure," and rightly, too, I think.

I fear that too many operators are content with simple removal of the lesion. This is only makeshift work. A true artist does not consider a piece of work done until finished, that is, until the structures involved in the disease have been returned to their normal condition, or as nearly so as finished surgical technique can accomplish it. The evacuation of a collection of pus in the pelvis by vaginal puncture, or the evacuation of an appendiceal abscess by simple incision, or the removal of stones from the gall-bladder, leaving a stone or stones in the common duct, can in but few cases be sanctioned by the surgeon. The thorough liberation of adhesions, the covering in of abraded or torn surfaces by peritoneum, I can not be too strong in advocating, for I see many patients who suffer from incomplete work, to conscientiously do otherwise. To finish up a case by undoing the bad work of a previous operation speaks for itself. I am sure, too, that many cases which are subjected to incomplete operation had better not have been operated at all, as the last state is worse than the first. The practice of filling the abdominal cavity with normal salt solution, does not, in my judgment, prevent adhesions, as it is too quickly absorbed.

The pelvic wall, floor, the rectum, sigmoid, cecum, vermiform appendix, small bowel, omentum or mesentery, bladder, ureter and uterus may be involved singly, or they may all be included in an inflammatory mass or in conjunction with and adherent to a tumor.

The breaking up of adhesions involving the pelvic walls or floor does not entail as great a liability to serious injury as is likely to occur when freeing the viscera; I will, therefore, merely mention the method employed in dealing therewith. The parts having been thoroughly exposed, a point is selected which seems to offer the best point to attack the mass of adhesions and an attempt is made to peel them off, which, in some instances, is accomplished without much difficulty. In others the mass can only be broken through after considerable force has been exerted. Again, it may be found necessary to divide the adhesions with a scalpel.

The terminal portion of the sigmoid flexure, but more particularly the rectum, both from the depth of the latter and its small range of mobility, offer great difficulties, in the process of enucleation, from a mass of adhesions or from a growth, and owing to its fixed position does not permit the same freedom for manipulation as does the sigmoid flexure above it.

In adhesions to these viscera an effort is made to find some point of attack, as in separating adhesions of the wall or floor of the pelvis and working gently away from the imprisoned bowel, which at times, even with the utmost caution observed, is torn, owing to its softened condition, from the inflammatory process. If the bowel has been torn, or the integrity of its wall impaired, the rent should be closed at once, or if too large to permit of this, the opening must be temporarily plugged with gauze until the remaining portion of the operation is completed, when the gauze plug is removed and the opening packed off from the peritoneal cavity with gauze, the gauze end being brought out at the lower part of the abdominal wound, thus favoring the establishment of a fecal fistula. It has been suggested under these circumstances to divide the bowel across and invaginate the proximal end into the distal end, retaining it by a continuous Lembert suture. This I have practiced when the distal end of the bowel was not softened to a degree which would render the procedure useless.

The sigmoid, like the rectum, is liable to be included in an inflammatory mass, but not to the same extent. Adhesion of this portion of the alimentary tract occurs in connection, most commonly, with pelvic tumors, fibroids of the uterus, ovarian or parovarian cysts and some cases of pyosalpinx. Extensive injury of the sigmoid flexure or of the mesosigmoid should not embarrass the operator, as resection and end-to-end union is easily done. The omentum, on account of its wide area of distribution, will be found adherent in a large percentage of the cases requiring abdominal section. It is often found surrounding a purulent collection, or forming a part of its limiting wall, or spread out fan fashion and attached to a pelvis mass. It is, therefore, safer to ligate the adherent structure previous to its separation, with preferably silk ligatures. The omentum is not ligatured en masse, but in sections. In dealing in this manner with the great omentum in elderly people, where the blood vessels have undergone senile change;

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it is of the greatest importance to include in the ligature but small sections, thus lessening the chances of secondary bleeding.

The small intestine and the mesentery are frequently found adherent to a pelvic mass. This is particularly so in the acute inflammatory diseases of the Fallopian tubes, and of the vermiform appendix. It is not unusual to find the small bowel and its mesentery forming a part of the abscess wall, especially in the iliac fossa.

When the adhesions are filamentous they may be broken up with impunity; where, however, they are spread out over a broad surface, as is seen when extensive plastic exudate has become organized, then the dissection must be carried out with care, to avoid tearing the bowel.

Injury to the peritoneal coat of the bowel does not, in itself, present any formidable condition, but where the muscular coat has been torn an effort should be made to suture the torn coat together, providing that the caliber of the bowel will not be impinged upon too much.

The bladder when in its normal relation is frequently found adherent to the omentum, and presents but few difficulties in the disposal thereof; ligatures applied successively one after another until the omental mass has been securely tied off and removed, will dispose of this complication.

A bladder adherent to the prolapsed fundus of a uterus and adherent to some other pelvic viscus will at times present a difficult problem to solve, and a tear under these circumstances is more likely to occur than under any other condition. If the peritoneal coat is torn a few interrupted sutures will close the torn surface; if the cavity of the bladder has been opened a series of fine silk sutures closely applied, including the peritoneal and muscular coats alone, will, in the majority of instances, suffice. After the repair of a complete rent in the bladder wall, the organ should be distended with a boric acid solution, or with normal salt solution, to determine if the wound has been securely closed.

The displacement upward, to which the bladder is liable in the presence of a large growth or cyst, makes it possible to injure that viscus in making the abdominal incision.

The ureter, unlike the other occupants of the pelvis, being behind the peritoneum, is not liable to adhesion, except from subperitoneal growths, and is, therefore, not nearly so likely to be damaged. It is most often damaged in the course of an operation for the removal of a large uterine fibroid, and particularly in the application of the ligature to the uterine artery. It is also liable to injury in the process of enucleation of a large parovarian or intraligamentary cyst or growth, particularly if the ureter overrides a portion of the tumor, and is masked by a mass of superimposed lymph. Preliminary catheterization aids in avoiding this accident.

The uterus and its adnexa form the origin of the bulk of the pelvic tumors that attain sufficient proportions to produce distortion of the other pelvic viscera, or occasion serious complications in the attempt at their removal. The complication incident to tumors of the uterus may be summed up into those which are due to the growth in the uterus, to pyosalpinx, ovarian or tubo-ovarian abscess, suppurating dermoid, a sloughing fibroid, or even suppuration within the uterus itself.

Peritonitis in association with fibroids is rare in comparison to that of ovarian tumors and the inflammatory affections of the uterine appendages. Following an attack of peritonitis, there may be, and frequently is, an agglutination of the pelvic viscera, and the first of these to receive the benefit of the inflammatory process is usually the tubes and ovaries, which become tied down, either to the uterus or to the pelvic walls or floor. The difficulties encountered in delivering some large growths are familiar to all, and in many instances this is occasioned by the adhesion of the tubes and ovaries to the pelvic wall or floor, and it is often impossible to deliver the tumor into the wound until they have been freed. In addition to the adherent tube and ovary, on the right side, an adherent appendix or cecum may add to the difficulties of the case, while on the left side the same may be true of the sigmoid.

If, in connection with the above complications, pus is present, it is only after the most careful walling off of the peritoneal cavity that any attempt should be made to remove the uterus with its tumor.

In addition to the bowel complications, the ureter will be found displaced in some instances to the degree of overriding a part of the fibroid, tumor or inflammatory mass. If the ureter is recognized before an attempt is made to deliver the enlarged uterus, or prior to the ligation of the ovarian vessels, it will be a very simple matter to dispose of the peritoneum so as to free the ureter and lift it out of the way to a place of safety until the fibroid uterus has been disposed of.

The vermiform appendix when adherent to the uterus is disposed of by the removal of the appendix, excising it from the cecum and closing the opening in the bowel with continuous Lembert sutures.

The removal of cysts, and inflammatory masses, while presenting difficulties in the shape of extensive adhesions to the pelvis and to adjacent viscera, do not offer the same difficulties, owing to the fact that a portion of the growth, if not malignant in nature, can be left behind if there is any danger of doing too much damage to the structure to which it is attached. When a large cyst of the ovary is intimately adherent to the bladder, bowel, or to the pelvic wall, and there is danger of tearing the bowel, bladder or ureter, a small portion of the cyst wall can be left behind, searing its cut surface with the cautery to prevent oozing from its cut surface.

Malignant growths of the uterus and its adnexa, or of the alimentary tract contained in the pelvis, or of the bladder by the extension of the malignant process beyond the primary seat of invasion are inoperable cases.

The most common complications of rupture of an extra-uterine gestation have been, in my experience, hemorrhage, adhesions and appendicitis. Of the former much can not be said, other than it is necessary to rapidly discover the bleeding point and secure it with a ligature. Upon opening the abdomen of a case of ruptured extra-uterine pregnancy large quantities of blood and clots make their escape from the incision, and as rapidly as possible the affected tube should be seized, brought into sight and tied off, subsequent to which the blood and blood clots can be removed. If the rupture has occurred some time previously and the mass has become adherent to adjacent coils of intestines, then as much of the mass can be removed as will not interfere with the integrity of the bowel. If the placenta has become firmly attached to the intestines it is safer not to attempt to remove it, but to wall it off with gauze and allow it to separate spontaneously.

When appendicitis and extra-uterine pregnancy are found present together the latter usually involves the tube of the right side. It is only in the presence of a sepsis that much danger can accrue from the combined lesion. Here the danger of an infection of the general peritoneal cavity can easily take place, and only the most careful protection of the general peritoneal cavity by gauze packing, isolating the right iliac fossa completely, will secure immunity from infection.

Of all the serious pelvic conditions to which the surgeons are brought face to face, purulent collections in the pelvis; especially those of appendical origin, are, in the writer's mind, the most dangerous and trying ones to deal with. The immediate danger to which the patient is subjected, and the liabilities of remote consequences, make this probably the most important question in abdominal surgery to-day. To decide upon the best means of preventing infection of the peritoneal cavity and the proper disposal of the pathological lesion requires that the surgeon not only possess the utmost skill, but the greatest experience in this class of work.

The source of abdominal hemorrhage following the removal of some pelvic lesion is at times difficult to discover and to control; if, however, the intestines have been kept free from the field of operation by gauze packing, there should not be very much trouble to discover the bleeding points and secure them with ligatures.

The points where hemorrhage is most likely to take its origin are, from the omentum, the ovarian, uterine, the appendical and the mesenteric vessels.

The most serious complication of the removal of uterine fibroid is hemorrhage, therefore, why one of our most prominent abdominal surgeons clings to the extraperitoneal treatment of the stump. Myomectomy, while applicable to a few cases, is doubtless open to the same objection. We will agree that post-operative peritonitis ranks highest in the fatality of pelvic operations. In the absence of infected lesions peritonitis should not occur, yet with all care it unfortunately continues to cost a small percentage of lives. Simple, thorough technique, including the use of rubber gloves by all who assist at the operation, offers the patient the safety against this dangerous complication. The gloves should be worn throughout the operation and not taken off when a difficult part of the operation is reached.

A recital of the accidents and complications of pelvic surgery would be incomplete without touching upon the danger of and accidents due to operations on the uterus per vaginam consequent to a dilatation and curettage or to a repair of a lacerated cervix.

Before any operative procedure on the uterus or cervix is attempted there should be some very strong indications calling for its performance, and what is of greater importance, the absence of any pathological condition of the tubes or the ovaries must be eliminated. The existence of a salpingitis, a pyosalpinx, or of adhesions, would be the strongest contraindication to any measures for operation per vaginam, unless an abdominal section was contemplated in connection therewith, so as to be able to deal with the intra-pelvic conditions at the same time.

The possibilities of introducing a peritoneal infection by means of the comparatively harmless procedures which the average family doctor and occasional operator considers his province, dilatation, curettage, or a repair of a torn cervix, can only be appreciated by those who see the numerous invalids and physical wrecks consequent upon these very harmful measures.

Let us consider the accidents which may occur in the simple operation of curettage: Perforation of the uterus, the lighting up of a salpingitis, the breaking up of adhesions and the ever present danger of peritonitis. Let me state here that the liability to perforation of the uterus, even in the hands of the most expert, is great, and that in some instances this occurs so unexpectedly that a loop of bowel may either be torn or dragged down into the uterus before a perforation is even suspected. I have seen several instances of this kind, where patients were brought to the hospital with severe uterine hemorrhage and a loop of intestine found prolapsed into the cavity of the uterus, calling for an immediate abdominal section to restore the bowel to the cavity and to repair the perforation of the uterus.

The importance of observing thorough asepsis in any operation per vaginam is imperative if we wish to eliminate the infections. When we consider the great opportunity for infection from an active or latent gonorrhea, from the presence of the many micro-organisms found in the uterus, and the possibility of opening up new fields for their activity as a result of the exposure of fresh surface by the use of the curette, it is remarkable that there are not more cases of salpingitis after this dangerous operation. The mucous lining of the Fallopian tubes is continuous with the lining membrane of the uterus, and the same condition often exists in the tubes as is found in the uterus; it is, therefore, not only a useless procedure but a most harmful one in most cases, to curette the cavity of the uterus without being able to correct the disease in the Fallopian tubes. The practice of plugging the uterine canal with gauze for purposes other than drainage is vicious and is a prolific source of salpingitis.

The same objections and dangers are attendant upon dilatation of the cervix uteri as in curettage. This operation has a limited field of usefulness and is indicated only in those cases of dysmenorrhea which are not associated with tubal or ovarian disease, pelvic inflammation or of fixation of the uterus. The operation is a disappointing one in many instances, and the dangers of lighting up a latent pelvic lesion so great that I would class this as a dangerous procedure, and not to be attempted by those who are unfamiliar with ordinary pelvic technique, on account of the necessity for thorough surgical cleanliness and the ability to recognize the various pelvic lesions, whether acute or latent, which contraindicate the operation of dilatation.

The treatment of a lacerated cervix, to my mind, calls for as great a display of good judgment and skill as does any of the major operations on the pelvic viscera. Here again we have the same possibilities and risks to contend with as in the operation of dilatation and curettage, viz., the lighting up of a salpingitis, of a peritonitis or some peri-uterine pelvic inflammatory process. In the absence of any contraindications from the pelvic viscera, tubes or ovaries, and with the condition of the laceration of the cervix warranting interference, the operation, being done under strict aseptic precautions, is generally under these circumstances not unattended by danger, if we are not careful to leave sufficient room in stitching up the laceration to permit free drainage of the uterine canal, and I may add that this is one of the most fruitful sources of subsequent salpingeal disease.

DISCUSSION.

DR. FRANK CARY, Chicago—I wish to ask the Doctor whether he said that he did not believe that there are any cases of women who have borne children and have not a lacerated cervix.

Dr. Deaver—I did.

Dr. Cary—Then I wish to say that either the gentleman has had a very limited experience, or his patients have been exceedingly unfortunate in their obstetricians.

Dr. Philander A. Harris, Paterson, N. J.—I have established to my own satisfaction that a certain number of cases with pus in the pelvis can be operated on more easily and cured more rapidly per vaginam. It is not easy to judge just what cases can be most safely operated on from below, but those who do a great deal of vaginal section work for puerperal sepsis are in a better position to judge. Occasionally you find exudates which appear rather suddenly and which may, or may not fluctuate, and yet, if you make an incision in the cul-de-sac, you effectually reach and discharge the pus, and the patient is symptomatically cured. We know that unless our incision has been properly made, we have afforded our patient only temporary relief. No person who has not employed this method, and who has not had a great deal of experience with it, has any right to condemn it. He who has had experience with it will recommend it. I am well satisfied that I have lost two cases by operating from above, which I might have saved by operating by the vaginal route. One, a case of pelvic hematocele which I saw five weeks after the rupture of a tubal pregnancy, had a clot which was so firmly organized that I could not distinguish it from a fibroid tumor, which the pelvis also contained. I operated by suprapubic section, and opened the hematocele, in the interior of it were two or three ounces of pus. That patient died very quickly from sepsis. If in that case I had made only a vaginal section, I would have had no trouble in recognizing the conditions present. I would have reached the cavity of the hematocele, discharged it through the vagina, stopped the considerable sepsis, and she would have been afforded a good chance of getting well.

Dr. Frank Warner, Columbus—I understood Dr. Deaver to say that many cases of lacerated cervix are operated on which should not be. As highly as I esteem Dr. Deaver, I must say that this is vicious teaching. We are apt to go home and leave many of these cases alone that should be operated on. Dr. Deaver has had a wonderful experience in abdominal surgery, but I question whether his experience has been broad in obstetric work. What harm do these operations do? They are very slight operations, and if they do not harm, why should we not restore the cervix to its original condition? He makes one exception, the development of cancer. I would like to ask him what case of appendicitis can he say will not develop into a cancerous appendicitis, and equally so which of these cases of lacerated cervix is going to develop into a cancerous cervix? Is it only those cases having a cancerous or hereditary tendency? I take issue with the Doctor, and say that these cases should be operated on; they should be restored to their normal condition. We can not possibly do any harm in operating on these cases.

Dr. Edwin Ricketts, Cincinnati—Dr. Deaver speaks of the vaginal route as a dismal swamp, and that vaginal puncture is not a surgical procedure. I wish to say that all he needs is more light in his "dismal swamp," and he will do better work. Take most of these post-delivery cases, in which there is an infection and accumulation of pus within the pelvis, with high temperature, rapid pulse, and you do not see that patient until rather late; I want to say that if you drain according to the older obstetricians, and give that patient relief by the vaginal route, you give her a better chance for her life than by operating by the abdominal route. There is something that the older obstetricians taught us that we are getting a little too far away from, and that is, to deal with pus as in the manner described. I say this, with all due respect to the general surgeon, who claims that he is better able to handle pus in the pelvis than the gynecologist and abdominal surgeon. I can call to mind several cases in which vaginal puncture was resorted to, a primary procedure, and those patients went on to recovery and in time bore children. Many similar cases are on record, and will help us out in this difficulty of abdominal versus vaginal incision. I recollect two cases in the earlier part of my work, when I was an enthusiast over the abdominal method, and they did not recover. Since I have adopted the plan of vaginal puncture in selected cases, I have had better results. If necessary, you can follow with the abdominal operation as a secondary procedure. This is the little light which my friend Deaver needs. He is very positive in his assertions. There is a happy medium which none knows better than the older obstetricians. If there is pus frequently it is better to let it out by the vaginal route, and do anything that may be necessary later on. Often no other procedure will be necessary.

As to drainage after abdominal section, if you open the abdomen and find the pus sac with thick walls, you can enucleate it, but if the walls are thin and fragile, it is better to puncture from below and drain rather than enucleate it through the abdominal incision. By this you prevent the extending of the infection. Extra-uterine pregnancy is always best dealt with through the abdominal incision.

Dr. W. O. Henry, Omaha—Dr. Deaver is always very positive, but I think he is too dogmatic. His statements will not always bear careful investigation. The matter of drainage is one of them. The man who opens the abdominal cavity in these acute cases will lose a large majority of them, whereas the man who first opens by the vaginal route will save nearly all of them. He says that all women who bear children have a lacerated cervix. A large proportion of them do not have a lacerated cervix. When he says that not one in fifty of those who have lacerated cervices needs to be repaired, he is greatly mistaken. It is true, some do not need it, but the large majority of them ought to be repaired. We know very well that a large majority of women with cancer of the uterus have it begin in a lacerated cervix. When it starts there, it rapidly spreads out into the broad ligaments. The latest statistics seem to show that not even 5 per cent. of them can be permanently cured, even if operated on. Women who have had a lacerated cervix are more liable to cancer than those who have not, and we owe it to our patients, our profession, and to society, to repair these cervices before cancer begins, and thus prevent its development.

Dr. Andrew Smith, Portland, Ore.—Dr. Deaver has referred very derogatorily to the operation of curettage. Nevertheless, I consider this the most valuable conservative operation in the entire domain of gynecology. I do not think that it is ever pardonable to perforate, except rarely in post-puerperal cases, where one should not handle a curette as he would a stiletto. The uterus has been perforated frequently by abortionists, but only rarely by cautious operators accustomed to the use of the curette. Curettage accomplishes more in gynecology, I believe, than all other conservative treatments combined. I will admit that it is bad surgery to curette promiscuously and carelessly in all cases, especially of salpingitis, and that it is not always an easy matter to determine just where these contraindications exist. But if due caution is exercised, curettage is of great value in removing endometric infection, and promoting uterine drainage.

Dr. D. A. K. Steele, Chicago—I can not agree with Dr. Deaver in regard to the abandonment of the vaginal route. I quite agree with Dr. Ricketts as to the many cases in which a vaginal section will evacuate pus, and render unnecessary any further surgical operation. I have had considerable experience with both routes, and had patients die after an abdominal operation who, I believe, would have lived had I used the vaginal route. In many cases of acute infections of the Fallopian tubes, complicated with localized collections of pus in the pelvic connective tissues, adjacent to the tubes, it is the part of wisdom and sound surgical practice to evacuate the pus collection that is extratubal by a vaginal section, and later to laparotomize the patient and extirpate the tube when it can be done with comparative safety.

Dr. Thomas J. Watkins, Chicago—Dr. Deaver has made so many sweeping statements that it is impossible to discuss all of them. The statement about the incision of pelvic abscesses ought not to go by without very severe criticism. Since 1894 I have operated on probably 200 cases of pelvic abscess by vaginal section and drainage, about 5 per cent. of which recurred. If I had operated all of these cases by the abdominal route, the mortality would certainly have been from 10 to 25 per cent. Another thing struck me as being rather odd—namely, that he should encounter so many intestinal complications. In my experience in three hospitals, and in private practice, I almost never have an intestinal complication that requires much attention. It seems to me that in all inflammatory diseases of the uterus, ovaries, and tubes, if we are extremely careful in our manipulations, we can avoid the intestinal complications which have been mentioned. A resection of the bowel after a severe abdominal section for a suppurative disease is certainly of great importance.

Dr. Deaver (closing the discussion)—Dr. Cary said I made a mistake by saying that there are too many lacerated cervices. I repeat that if every woman who has borne children be examined carefully, with an anatomical and not an obstetrical eye, she will be found to have a torn cervix. It is not in the the condition it was before she became pregnant, although it may not have a tear or erosion.

As to Dr. Harris, the strongest argument he presented is that he is not capable of telling which of the two operations to do, and, therefore, his patients are not in safe hands. He speaks of a symptomatic cure. I do not know what that means. I know what a cure means.

Dr. Harris—My symptomatic cure—a cure of pain and symptoms complained of.

Dr. Deaver—As to hematocele, these cases are being operated on to-day, and I have seen them recover. Several of the gentlemen have misunderstood me about lacerated cervix, curettage and dilatation. I did not say that these operations should never be done, but that they are done entirely too frequently by the occasional operator and the family doctor. I stand by that statement. I mean, furthermore, that in the presence of a lacerated cervix and tubal disease, the cervix had better be left unrepaired than repaired. You arrest the drainage from that uterus, and you convert a latent into an active salpingitis. I am sure that every surgeon of experience will agree with me in this.

Dr. Ricketts raised the question as to my experience in obstetrics. For some years I was an obstetrician, but I am one no longer. I confine myself to surgery. I see plenty of cases of puerperal infection, but I see very few cases of so-called pelvic cellulitis with abscess formation. I defy Dr. Ricketts or any other man to thoroughly evacuate pus tubes by vaginal puncture without doing more damage than good. I practice vaginal puncture; I have plenty of patients appear in the hospital with a fluctuating mass in the pelvis, elevated temperature, and without ether I take the knife and slice the roof of the vagina, evacuating a quart or more of pus. I do not call that an operation. My gynecologic friends would certainly call it an operation. I would like these gentlemen to understand that my friend, Dr. Price (who is not here to defend himself), and myself use discrimination in the selection of our cases. We do use vaginal puncture, and we operate through the vagina; therefore, I know that I have been misunderstood by many of the gentlemen present.

Dr. Ricketts refers to lighting the dismal swamp. I know of no light that will be of any aid in that operation. I do not speak of vaginal puncture, but I mean an operation in the sense that you are going to deal with these pus tubes as thoroughly and as effectively as you can from above.

Dr. Smith also attacked me on lacerated cervix. I hope he distinctly understands that I believe that a woman with a badly lacterated cervix, or a second-degree lacterated cervix, if she comes from a carcinomatous family, should certainly be operated on, but I do not believe that a mild degree of laceration of the cervix will, if operated on, prevent a carcinoma. A surgeon with twenty-five years' experience is not going to give up what he has learned from practice for what he is taught by theory. I amputate as many breasts as the majority of surgeons, and 33 per cent. come from a cancerous family. I find in my experience that in the majority of cases of carcinoma of the uterus I see—and I see a fair proportion—I have no trouble in eliciting an hereditary history, either in the mother, grandmother, or great-grandmother. I believe that a lacerated cervix of any degree should be repaired if for no other reason than to prevent the possible likelihood of a cancer. I wrote the latter part of that paper for the purpose of exciting just such a discussion as has been excited.

Dr. Smith talks about office treatment. I wish there was not a doctor in this country to-day who makes an iodin or carbolic acid or tampon treatment in his office. I have seen more disturbances of the pelvis in patients who have been subjected to such treatment. The object of my paper has served its purpose. Of course, I do not expect gynecologists to make these errors, but it is a warning that the gynecologist as well as the surgeon must give to the family physician and the occasional operator, who feels he is capable of discriminating.

Clinical Report.

CIRRHOSIS OF LIVER—REPORT OF A CASE.

C. S. MUSCROFT, M.D.; H. A. INGALLS, M.D.
CINCINNATI, OHIO.

G. H., aged 45, had been a user of wine, beer, and whisky since early manhood, but family history was good, and he never had syphilis. The patient was seen by Dr. Muscroft about April 15, and presented the typical signs of cirrhosis of the liver: jaundice, abdomen greatly distended with fluid, feet and legs edematous, pulse rapid and weak. The liver could not be outlined owing to abdominal distention. Paracentesis was advised, but rejected. The condition was not materially improved by the administration of diuretics, laxatives, regulation of diet, baths, etc. On May 1 the patient was tapped, and 370 ounces of fluid withdrawn. Percussion revealed a very small area of liver dulness. The tapping was followed by an improvement of all his symptoms; medication was continued and the edema of the feet and legs was much reduced.

The improvement was of short duration and in ten days the condition was as bad as when first seen; the toxic symptoms being more pronounced. A urinary examination was made, but no albumin or casts found. On consultation, the toxemia becoming more marked, it was decided to offer the patient the benefit of the Talma-Morison operation, and the patient was removed to the Presbyterian Hospital, where we operated on the morning of May 11. The usual technique was followed: two incisions, a large one above and a small one below the umbilicus, were made, and a drainage tube inserted into the pelvic cavity through the smaller opening. The table was then elevated to gravitate the fluid to the pelvis, so that drainage could take place while other work was being done. The liver was found to be a typical "hob-nail," thus confirming the previous diagnosis. With dry gauze sponges the visceral and parietal peritoneum were irritated and the omentum sutured to the anterior abdominal wall. Continuous drainage was decided upon, so the tube was allowed to remain in the lower opening. The wounds being closed and dressed, the peritoneal surfaces were held in contact by means of adhesive straps across the abdomen.

At the beginning of the operation the pulse was 150 and weak. At the close of the operation pulse was 116 and stronger. Dr. Allan Ramsey, who administered the chloroform, states that but a small amount was necessary. The patient rallied without nausea, and took sixteen ounces of liquid nourishment during the afternoon and night. The symptoms of toxemia became very pronounced during the night and the patient gradually sank in spite of transfusion and stimulants, and died about thirty hours after the operation.

The writer saw this operation performed under cocain anesthesia about three years ago, but the result was the same, death from toxemia. From observation of the two cases mentioned and a study of the literature, the following deductions are made: 1. The prognosis is very bad in those cases of long standing presenting toxic symptoms. 2. Results under both general and local anesthetics are about equal. Theoretically, local anesthesia should be used. 3. Shock is not noticed, these patients being in better condition after than before operation, due, no doubt, to the briefness of the operation and the inhibitory action of the bile. 4. Transfusion should be practiced at the time of operation. 5. Early operation should be advised.

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THE PATHOLOGIC EXHIBIT AT ST. PAUL.

No sooner was the Section on Pathology and Bacteriology of the Association formed than it had placed upon it the responsibility of the management of the Pathologic Exhibit. This was entrusted to a special committee, of which Dr. Frank B. Wynn was made Chairman, and in order to defray certain necessary expenses the sum of $500 was set aside for the use of this committee. Hence, the Exhibit at St. Paul was the first official attempt of this kind. Surely no one who visited and inspected the large, conveniently displayed collection of varied and interesting nature, in the Ryan Annex, but will agree that the committee had done its work very successfully and that the money expended was put to good use.

The Exhibit was interesting from various view-points. Perhaps the beautiful preservation of natural colors seen in many of the specimens preserved for museum purposes by Kaiserling's method, or some modification thereof, would attract the special attention of the more hurried and superficial inspector. But even the expert pathological anatomist could not but admire the perfect result demonstrated by some of the exhibitors. And the general practitioner had here a splendid opportunity to see the gross lesions of many of the diseases, rare and otherwise, which he sees more or less frequently clinically. The instructiveness and suggestiveness of the pathological specimens were surely of much value to many. A series of bacterial cultures, mounted in a novel manner, attracted considerable notice because of their value for demonstration and instruction.

In the second place there was a large number of exhibits illustrative of original work in anatomy, normal and pathologic, and in bacteriology, consisting of gross and microscopic specimens and photographs. Perhaps the exhibits of this character were not so immediately attractive as the more showy and more purely museum preparations already referred to; but the significance and value of the specimens illustrative of scientific work grew apace on closer study. The specimens constituted the public documentation of work already published or in the course of publication; many were accompanied with full written or printed explanations and drawings. Among the more striking exhibits of this character mention may be made of a series of successful transplantations of sarcoma in white rats, showing the growths in various parts of the animal, and the collection of photographs illustrative of the various aspects of blastomycetic dermatitis, clinical, histologic, and mycologic. Some of the papers read before the Pathologic Section were illustrated by means of demonstrations of specimens of this kind.

In the third place, a beginning was made in illustrating methods of teaching by the exhibition of a number of student note-books and drawings from laboratory courses—an excellent idea that ought to lead to larger exhibits of this or allied nature in the future. There were also a number of miscellaneous exhibits of historic and other interest. It is quite evident that the term "Pathologic Exhibit" hardly expresses the scope and varied nature of the material brought together. Scientific Exhibit would be better. As expected, the institutions in the region naturally tributary to the meeting place furnished the larger bulk of the exhibit. Some specimens were brought from considerable distances, however.

As to suggestions for the future, the most important because of such general character, would be that efforts should be continued to extend the scientific tendencies noted in the St. Paul Exhibit. Material illustrating original work, demonstrations of special technical methods, of methods and results of teaching and practical demonstrations of various kinds should be secured. Anatomical specimens of all kinds, always welcome, may well begin to share the attention with exhibits of a physiological and chemical character. Probably the fusion of the Section on Physiology and Dietetics with that of Pathology and Bacteriology will lead to a better representation of scientific physiology, not only in the exhibit, but also in the Association at large. The St. Paul Exhibit was gratifying also because of the absence of all commercial taint on the part of the exhibitors and because there was no evidence of the presence of morbid curiosity seekers.

MEDICAL ORGANIZATION.

It seems from an editorial in the *Lancet*,[1] that the members of the medical profession of Great Britain, in their attempt at organization, have the same arguments to meet that we have in this country. One of these, and the most often used, sometimes by physicians themselves, is that we are forming trade-unions. The *Lancet* very correctly states that while we do not decry trade-unions, there is a decided difference between such and the organization of medical men which is being so slowly accomplished. There is no denying that trade-unions have sometimes been animated by nobler sentiments than the desire to extract from the employer of labor the maximum of pay for a minimum of work. If the tyranny of capital has been replaced by the tyranny of labor, the situation is one that usually adjusts itself. But admitting this, professional union means something more than this; we can not rid ourselves of our higher ideals, and the very existence of a system of medical ethics as a living force in the profession gives the lie to those who would compare medical organization to trade unionism. The fact that this is done by English politicians and lawyers like Chamberlain and Grimthorpe, shows either their utter lack of principle or how superficially they have regarded the subject.

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[1] June 15.

The ideal organization of the profession is along ethical lines and no other is intended. It is daily becoming more plain that it is only by some combination and organized effort that the true ethical spirit of the profession can be preserved and that violation and perversion of its mission by individuals and cliques can be avoided. Especially is it needed to prevent our exploitation by other organizations whose methods and aims are the reverse of ethical in any sense of the word. We can not keep up our elevated standards by subordinating ourselves and them to outside selfish interests. The need of some movement in this direction is not less in this country than in Great Britain, though each country may have its special problems to meet.

That our British confrères are awake to the situation is shown by the editorial referred to, and also by other evidences. One of these is given in a letter published in the *British Medical Journal* of the same date, referring to the reorganization of the British Medical Association:

"Five pounds a year and consent to the discipline of combination would not be too much to give, if through the British Medical Association the medical profession could become organized, self-protecting, and consequently self-respecting and respectable. In these days of organization in all callings, the only one not doing so will naturally go to the wall, and its position become intolerable. One thing is certain, that conservatives, liberals, radicals, anti-Boers, pro-Boers, millionaires, and workingmen, Chamberlains and Steads, are all quite agreed on one point, namely, to exploit the medical profession to the utmost of their power, and on submission, laugh in their sleeves when referring to 'the noble profession,' 'the patriotism of the profession,' a profession which for the most part receives a beggarly pittance, considering the time, energy, and money spent in obtaining a degree or diploma; not to say that it is without honor in our own country, which has been practically shown twice over lately, when ministers of the government have held us up to derision in the House of Commons. The position, bad as it is, will get worse so long as we remain 'an unorganized mob.' We must follow the general example; combine professionally, and take a more active share in politics."

If the American profession, as well as that in Great Britain, is to become duly respected it must protect itself; it must become "organized, self-protecting, and consequently self-respecting and respectable."

TREATMENT OF GONORRHEA WITH NITRIC ACID.

In the presence of disease the object of treatment is the repression of the morbid process and the prevention of complications and sequelæ. There are few specifics, the indications for therapeutic measures being in most instances either physiologic or empiric. Notwithstanding the many remedies recommended at different times in the treatment of gonorrhea, silver nitrate still remains one of the best, if not the best, for this purpose. Its use, however, is attended with the disadvantage of being followed by unpleasant burning of such a degree that many patients are fearful of its employment. Inasmuch as argentic albuminate and proteid combinations of nitric acid result from the application, Popper[1] was led to make urethral injections of a solution of nitric acid in order to avoid the generation of heat caused by the chemic decomposition of silver nitrate. Cocain or eucain may be added to the solution for anesthetic purposes. In cases of acute gonorrheal urethritis a 10 or 15 per cent. solution of pure concentrated nitric acid was injected from three to five times daily, the fluid being permitted to remain in the urethra for one or two minutes. In the course of from twenty-four to forty-eight hours the character of the copious discharge will have changed. The urine becomes clear and contains only fibers. The secretion is viscid and considerably diminished. In the course of five or six days at times only a small drop can be expressed; later only in the morning. In the course of a week in most instances the discharge is even still less. The gonococci also rapidly diminish in number in the course of a day and disappear wholly in from five to eight days. The mucous discharge contains many epithelial cells, which are in part filled with gonococci. For three or four days after the gonococci have no longer been demonstrable the injections are made but twice a day and then but once a day. After from twelve to fourteen days astringents are prescribed for the purpose of causing the disappearance of any filaments that may yet be present. If the discharge is not increased following a seminal emission, or gonococci do not appear, the injections are gradually discontinued, so that the treatment shall be concluded in from fifteen to thirty days. In chronic cases or in the presence of posterior urethritis, a 25 per cent. solution of nitric acid is injected once daily by means of Guyon's syringe. At times the strength of the solution is increased and the injections are made less frequently.

The opinion is expressed that the good effects resulting from the employment of silver nitrate and copper sulphate in the treatment of gonorrheal urethritis are attributable to their coagulating action, while the newer combinations of casein, albumin and peptone with silver, which are precipitated when injected into the urethra, exert only a mechanical influence like pure water, solutions of boric acid and physiologic salt solution. It is believed further that nitric acid is not the only agent capable of yielding the admirable results described, but that other coagulating substances, such as chromic acid and picric acid, have a like action, the acid reaction of the solution also possibly contributing to the bactericidal effect.

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[1] Centralbl. für die Krankheiten der Harn- und Sexual-Organe, B. xii, H. 4, p. 184.

In explanation of the results obtained it is suggested that the epithelial cells injured by the toxins generated are attacked by the nitric acid and their desquamation thereby favored. The method described has been on trial for two years, and experience has shown it to be more rapid and milder in action than the use of silver nitrate. If in the course of treatment the discharge does not become thin and serous, if the mucous membrane becomes sensitive and erections painful, the treatment is continued by means of astringents. Often the urine becomes entirely clear. Sometimes, however, filaments that contain no gonococci persist for several weeks or months.

TUBERCULIN.

The furor excited among physicians and laity, in 1890, by the announcement that Koch, the discoverer of the tubercle bacillus, had also discovered in tuberculin a cure for tuberculosis, will not soon be forgotten. The disappointment, not to say disgust, that followed when Virchow and others proclaimed the dangers attending the use of the new remedy, will likewise long be remembered. Physicians and laity feared to employ the remedy and it was generally discarded. A very few used it cautiously for purposes of diagnosis. A still smaller number, including several Americans, employed it as a curative agent. Among these was Goetsch, of Slawentzitz, who now, at the end of ten years, and at the solicitation of Koch, publishes his statistics.[1] He tells us in plain and simple language, having the ring of honesty and the marks of scientific accuracy, that from 1890 to 1900 he has treated 175 cases of tuberculosis with Koch's tuberculin with a percentage of cure of 71, that is, 125 have been cured and 50 improved. The record is startling, even when we consider that his cases are carefully selected ones, where the process is not far advanced, and where mixed infection has presumably not occurred.

Goetsch makes his diagnoses by the history and physical signs, but has called no case tuberculous unless tubercle bacilli have been found, or unless there is an unmistakable reaction to tuberculin; and he calls no case cured unless bacilli disappear and the patient tolerates without reaction a large dose, even up to one gram, of the old tuberculin.

He lays down three rules that should be followed: 1. The treatment should only be begun when the patient is free from fever. 2. The dose should not be increased until the last dose is tolerated without reaction. 3. The patient, on the day of the injection, as well as on the day following, must remain in bed.

His illustrative cases seem convincing, and those who have all along hoped that in tuberculin there was an agent that, rightly employed, might rank with quinin and diphtheria antitoxin as a specific, will again take courage from this contribution to the subject, and will await eagerly for confirmation from other quarters of the remarkable results reported by Goetsch. For, as said before, even granting that he selects only the favorable cases, the incipient ones, the results seem marvelous and, if supported by other investigators, will go far toward restoring to favor the despised tuberculin.

MEDICAL EDUCATION AND ITS RECOGNITION BY THE RICH.

It is satisfactory to see things coming our way at last. The recent donation of a million dollars to Harvard University, the Carnegie fund for the Scottish schools, the Rockefeller fund for medical research, and still other donations and endowments for medical instruction, indicate that the branch of scientific education which pertains to prevention and cure of disease is at last being considered. It is to be hoped that this is only the beginning of better things and that the endowment of medical research and medical education will soon be the rule and not the very rare exception, as has been the case heretofore.

THE ILLINOIS MEDICAL PRACTICE ACT.

The Illinois Supreme Court, by what seems a rather technical decision, has interpreted the Illinois medical practice act in such a way that it is impossible to discipline for unprofessional conduct any one whose certificate antedates the passage of the present law in 1899. It was certainly not the intention of those who framed the law to have this interpretation put upon it, but in the redundancy of their legal phraseology they make it open to this construction, which the court adopts. The result is that any one licensed before July 1, 1899, is free to practice any kind of quackery without any recourse on the part of the state. Only licensees under the law now in force can be disciplined. The court, according to the press reports of the decision, makes the suggestion that the defect in the law can be corrected by legislation, which it is hoped is the case. It is also to be hoped that the amendment can be so drawn up as to carry out the intentions of the makers beyond all possibility of any annulment by court decision.

AN EXAMPLE OF THE EDDY LITERATURE.

As an example of how words can be thrown together in such a manner as to sound sweet and beautiful, and at the same time mean nothing, Mrs. Eddy's "Key to the Scriptures" is a magnificent example. What is needed by the ordinary mortal is a key to the "Key," to unlock the mysterious secrets covered up by the verbiage in that money-making and awe-inspiring book. On a small scale, however, Mrs. Eddy's recently delivered speech, which we have no doubt is appreciated and understood by her followers, is another charming illustration of what she can do with words when she tries. The newspapers announce that at the recent gathering of her pilgrims Mrs. Eddy appeared on the balcony and said: "Beloved brethren"—nearly all present were women—"My joy in meeting with you, is my present text. When we shall meet again, will be my next. I think you will agree with me that you have heard sufficiently from me in my message. I will only look upon your faces and then return again to my studio." We would advise those interested to take this "speech" to some shady, secluded spot, beside a cool and babbling brook and study and ponder over it. Its secret meaning shall be revealed. There is a hidden meaning, although the non-adepts may not be able to discover it, especially just what is hidden in the first two sentences.

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[1] Deut. Med. Wochenschrift, June 20, 1901.

SYPHILITIC FEVER.

The fact that physicians do not seem to be sufficiently alive to the general fact that syphilis may be the cause of obscure forms of fever, which yield only to proper antisyphilitic treatment, leads Futcher[1] to report three interesting cases of this kind. The most obscure cases of this category are those in which there are no evident outward manifestations of syphilis. Futcher points out that fever in syphilis sometimes, though rarely, occurs so long as three or four weeks before the appearance of the eruption; it may occur just previously to or coincident with the secondary eruption, constituting then the so-called "fever of invasion"; and the fever may come on at any time during the secondary or tertiary stages. In one of Futcher's cases it appeared twenty-nine years after the initial lesion. Syphilitic fever may be continuous and mild, of a remittent type, and of a definite intermittent type, being often mistaken for malaria, typhoid, sepsis, etc. Janeway has cited a number of cases of syphilitic fever which had been diagnosed and treated as tuberculosis, some of the patients having been sent to sanatoria for the tuberculous, and yet the fever and other symptoms promptly disappeared with specific treatment. Enough has been said to emphasize that all cases of fever of obscure origin should be studied with syphilis in view. Evidences of tertiary lues should be sought for in such obscure fevers the exact cause of which is absolutely unknown.

A DECAYING RACE.

According to the Honolulu *Commercial Advertiser,* the Hawaiian race is progressing rapidly toward extinction. This is not strictly news, for it has been long well known to be the fact, but it appears that there has been a decided acceleration of the process within the past two or three years, and matters are more likely to be worse than better. The causes hitherto effective, the neglect of infants by native mothers, the gradual diminution of the *poi* and fish supply, and the spread of loathsome disease, have been reinforced by the newly-acquired vice of opium-smoking. The increasing cheapness of the drug has placed it within the reach of even the poorer Hawaiians and they have the natural disposition to indulge in it. They lack, however, the racial vitality and self-control of the Asiatic consumers, and the results are, therefore, the more disastrous. Their natural improvidence and carelessness of the future is also against them; they see the precipice ahead, but the desire for the present indulgence is imperative and they do not care. The paper quoted says that there are probably now living men of voting age who will see the last full-blooded Hawaiian native, "but that long before that the race will have become a negligible quantity." There is something tragic in the utter annihilation of a race, especially one so amiable in many respects as are the Hawaiians, and it is to be hoped that something may be done even yet to check the tendencies that are causing their decay.

THE UNSENTIMENTAL NURSE.

The trained nurse is a much belauded personage, especially in her graduation addresses, but she also comes in for her share of criticism. Dr. Malcolm Morris and others find her often conceited and too unconscious of the due subordination she owes to the medical profession, of which she is a sort of useful parasite. Others have criticised also, but in a recent issue of a lay journal we find even her merits, from a physician's point of view, are taken exception to by those who endure her ministrations. It objects to her noiseless efficiency, her conscientious regularity, her simulated amiability, her mechanical perfection in the performance of duties; her emotional impassibility, it says, spoils all the pleasures of illness; the patient can make no appeal to her sympathy and she only aggravates his irritability. What the average inexperienced male "who wants to enjoy the pleasures of illness," desires, the newspaper says, "is a ministering angel with actual human sympathies, whose feelings will be touched by human suffering, whose gentle hand will smooth the pillow and cool the fevered brow, and all that sort of sentimental thing," not a self-contained and unimpressionable female, as methodic as a machine and "as dead to his personality as a wooden Indian." Personally, we do not know what the pleasure of illness is, something, we suppose, like the dying of a rose in aromatic pain, etc., but we can appreciate the nurse's position when in unavoidable attendance upon a patient of that type, so far as our fancy can reproduce him. It may be that some nurses are wooden in their ways and obtrusive in their lack of sympathy. If so, it is an error, but one that is on the whole less likely to do mischief than the opposite extreme. To be a philanthropist, as Dr. Sevier says, one must be cold-hearted, and most certainly an inflammable-hearted female philanthropist in a hospital, or even in a sick room, is a dangerous thing. When a nurse can, with all her other requirements met, steer clear of the Scylla of emotionalism on the one hand and the Charybdis of indifference on the other, she is a wonderful creature, common as she may be, and then if she is still criticised one ought to love her for the enemies she has made.

LANDRY'S PARALYSIS OF DESCENDING TYPE.

Although the nature of so-called acute ascending paralysis is not definitely known, there is ground for believing that the condition is dependent on some morbid process, probably infectious-toxic, expending its influence upon the lower motor neuron, that is, upon the ganglion-cells of the anterior horn of the spinal cord or the peripheral motor nerves or both. That no lesions are demonstrable would seem to indicate that the action is essentially a toxic one short of inflammation or degeneration. As a rule the symptoms of the disorder are of ascending character, paralysis appearing first in the lower extremities, then in the trunk and finally in the upper extremities. So common is this mode of invasion that it has come to be considered distinctive. That this is not so would seem to be shown by a case reported by Leonard A. Rowden.[1] The patient was 10 years old, and fell a distance of ten feet into an excavation, without apparent bad results. On the following day he did not feel well and held his head as if he had a slightly stiff neck, and he vomited once after taking some light food. During the night he was rather restless, and on the following day he complained of slight headache and pain in the neck. The succeeding night he was again restless and there appeared to be slight fever. A day later the temperature was found to be almost 103, the pulse 100 and good and respiration normal. The head could not be voluntarily turned to either side, but there was no difficulty in passive movement. There was also inability to raise either arm at the shoulder-joint. The grasp of each hand was fair, the forearms could be readily flexed and extended at the elbow-joint and the legs could be kicked about briskly. On the next day there was complete paralysis of the muscles of both upper extremities and of the trunk and also of the intercostal muscles, with total paralysis of the lower extremities. There was no headache, no rigidity, nor twitching of the muscles, no loss of sensibility, and the mental powers were preserved, as was also control of the sphincters. In the further progress of the case the paralysis of the legs became more advanced and the muscles of deglutition seemed somewhat involved. The knee-jerks were lost, and the facial muscles were later involved and speech became indistinct. The pulse grew rapid and weak, the heart failed, cyanosis developed and death ensued after an interval of five days. Unfortunately, an autopsy could not be secured, but the symptoms and the course are sufficiently distinctive to justify a diagnosis of Landry's paralysis of descending type.

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[1] New York Medical Journal, June 22, 1901, The Journal A. M. A., page 63.

MISUSE OF THE NATION'S NAME.

The New York State authorities have issued a certificate of incorporation to a concern styling itself "The United States Board of Health," whose business is announced to be the issue of certificates setting forth the purity or harmlessness of food products and patent medicines. Its name is claimed to have been copyrighted by the trick of printing a report bearing same. The official who issued the copyright is said to have "raised a question," as well he might, as to the name; but he issued it nevertheless. Of course the undisguised intention is to sell, to all those who will pay for them, certificates which to all appearance come from a government board of health, guaranteeing their products as having been analyzed and found fit for food by United States officials. The authorization of such a corporation, under such a name, is an outrage upon the people of the entire nation, compared with which the "use of the flag for advertising purposes" sinks to nothingness. There was a time when the coupling of the name of the United States, or some particular state or city, with a private enterprise was regarded as simply a token of patriotism or of state or local pride. "United States" or "New York" or "Minnesota" banks, insurance companies or hotels, were, in this view, quite unobjectionable. But latterly a class of unscrupulous adventurers in various lines of business have taken to using such names for purposes of deception and fraud; and they find numerous victims among the less informed members of the community. Evidently the time has come when some department of the Government should be clothed by Congress with the power to prohibit the use of the name "United States" for any purpose of fraud or deception.

The above is from the St. Paul *Pioneer-Press* of June 18. With the facts as above given the matter is one that interests the medical profession and might well be considered by the Committee on National Legislation of the American Medical Association. If Armstrong or Buchanan should ask for a certificate of incorporation for the United States Government Medical College, they could probably obtain it under the laws of some of the states. For our credit abroad, as well as for our welfare at home, we should most decidedly abridge this liberty.

Medical News.

ILLINOIS.

St. Francis Hospital, Evanston, was formally opened, June 29. The hospital has accommodation for 20 patients.

Dr. Arvid E. Kohler, Moline, has been elected physician for the poor of that city.

Sterling physicians recently held a meeting at the office of Dr. Frank Anthony and adjusted and revised the fee-table.

Drs. Louis H. Clampit and William C. Cole, Jacksonville, have been appointed to the medical staff of the Illinois Central Hospital for the Insane at that place.

New Hospital at Quincy.—The trustees of the Illinois Soldiers' and Sailors' Home at Quincy have approved plans for a new hospital for the institution. An appropriation of $24,000 was made by the state legislature for this purpose. The hospital will accommodate 90 patients.

Chicago.

Jenner Medical College held its commencement exercises, June 20.

Dr. and Mrs. James M. Fraser sailed for Liverpool, June 11, on the *Servia*.

Dr. John A. Robison has resigned as professor of medicine in Rush Medical College.

Dr. C. Pruyn Stringfield has been appointed a colonel on the staff of Governor Yates.

Dr. E. J. Senn has been appointed assistant professor of surgery in Rush Medical College.

Dr. Ernest A. Matthaei and Dr. Paul R. Welcker and wife sailed June 8 on the *Patricia* for Hamburg.

Prof. Nicholas Senn was given the degree of Master of Surgery by the University of Chicago, June 21.

Prof. L. Hektoen left last week for a three months' holiday in Sweden. He will devote all his time to recreation and pleasure.

Dr. John M. Dodson was elected president of the Alumni Association of the University of Wisconsin, at the annual meeting, June 19.

Dowieites Appeal Denied.—Judge Clifford has dismissed the appeal of Henrika Bratsch, a deaconess in the Zion church, who was fined $100 by Justice Everett for practicing medicine without a license.

Globe-Circlers.—Drs. Nicholas Senn, Jacob Frank and Daniel R. Brower and W. M. Maston, of Mobile, Ala., have sailed for Europe. They are to make an eastward trip around the world via Berlin, Moscow, Siberia, Vladivostock, Corea, Japan and Vancouver, reaching Chicago about October 1.

St. Mary's Hospital.—The cornerstone of the Hospital of St. Mary's, which is to occupy an entire block, bounded by Haddon and North Hoyne avenues and North Leavitt and

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[1] British Med. Jour., May 4, 1901, p. 1076.

Thomas streets, was laid with appropriate ceremonies, June 16. The foundations have been laid and the building will cost about $200,000.

Wesley Hospital, at Dearborn and Twenty-fifth streets, was informally opened, June 17. The formal dedication is deferred until $25,000. the balance of the $250,000 required for the purchase of land and the erection of the building, has been raised. The building is six stories in height and contains 250 rooms.

St. Francis Hospital, Evanston, has been established by the Sisters of St. Francis in the Kirk mansion on Ridge avenue. Its staff is as follows: Dr. John B. Murphy, consulting surgeon; Drs. William A. Kimmit and William Hessert, surgeons; Drs. Edward H. Webster, William A. Phillips, William B. Parkes, Evanston, and George Sintzel, Niles Center, physicians; and Dr. Shobal V. Clevenger, nervous and mental diseases.

Fire at the College of Physicians and Surgeons.—A fire, started by lightning, damaged the College of Physicians and Surgeons to the extent of at least $40,000, June 25. As the West Side Hospital, which adjoins the college building, appeared to be in danger, the 69 patients were removed to the County and Presbyterian hospitals, where they were cared for. The removal was accomplished without any casualty, thanks to the discipline and coolness of the nurses of the hospital. The two upper floors of the college building sustained the most damage. The library, many microscopes and the fine pathological exhibit made by Dr. W. T. Eckley at the meeting of the ASSOCIATION in St. Paul, were destroyed beyond repair. The building was fully insured. It will be repaired and equipped for the use of the dental department of the University of Illinois; the medical school will remove to the recently acquired West Division High School property, which is now being remodeled for that purpose.

KANSAS.

Dr. Henry O'Donnell, Ellsworth, has been appointed surgeon-general of the Kansas National Guard.

A hospital for colored people will soon be erected in Leavenworth. Much of the money needed has been subscribed.

The State Board of Medical Registration and Examination completed its organization, May 21, and elected Dr. George F. Johnson, Lakin, president, and Dr. W. H. Roby, Topeka, secretary.

Registration.—Under the new law, Kansas physicians will have till September 1 to file with the secretary of the examining board their authority to practice. If the authority is sufficient, the board will issue certificates. After September it will be an offense to practice medicine without a certificate from the state board. The penalty is a fine of from $1 to $200. The examination fee is fixed at $15. The fee for certificates to physicians who do not take the examination is $2.

KENTUCKY.

A new hospital is to be erected in Louisville at a cost of $50,000 by the Franciscan Sisters.

Quarantine Against Carlisle.—The health officers of Bath County on May 30 proclaimed the establishment of an absolute quarantine against Carlisle on account of the prevalence of smallpox in that town.

Smallpox at Cynthiana.—Dr. N. W. Moore, health officer of Cynthiana, has sent the following report of the smallpox condition at Cynthiana, on May 21. Since April 6 there have been 54 cases and no deaths. Two large pest-houses—one for whites and one for colored, have been erected and contained 6 cases at the time of the report. There were then only 4 cases in the immediate town, and several cases were distributed through the county.

LOUISIANA.

Dr. Guy A. Darcantel, New Orleans, has been appointed by the State Board of Health, resident physician at Rio Cocle, Colombia, Central America.

Dr. A. B. Brown, New Orleans, has been appointed one of the physicians of the United Fruit Company and has been assigned to the steamer *Jamaica.*

Dr. Arthur Weber, newly appointed member of the New Orleans Board of Health, has had his claim to membership confirmed by Judge John St. Paul, who has issued a peremptory mandamus compelling the board to accept Dr. Weber.

New Quarantine Station.—The proposed establishment of a quarantine station by the State Board of Health at Lake Borgne Canal as soon as it is opened to traffic, is meeting with general approval. There will be need of a health station at that point on account of its direct communication with Mississippi sound.

MARYLAND.

New Course at Johns Hopkins.—During October a limited number of physicians will be admitted to a special class for the study of the important tropical diseases met with in this region, especial attention being given to malaria, dysentery and typhoid fever. Preference will be given to officers of the medical departments of the army and navy.

The Maryland Medical Journal Company, at its annual meeting in Baltimore, June 13, elected Dr. Robert T. Wilson, vice-president, Dr. Horace M. Simmons, secretary and general manager; Drs. William Osler, William H. Welch, John D. Blake, Wilmer Brinton, Hiram Woods, Jr., and Julius H. Wyman, directors; Dr. John S. Fulton, editor, and Dr. Thomas R. Brown, associate editor.

Preventive Treatment of Rabies.—The Department for the Preventive Treatment of Rabies (Pasteur method) at the City Hospital, Baltimore, has published a detailed report of the 209 cases treated. But one death is reported, and this is considered to have been due to delay in resorting to treatment. Of the 209 patients 15 were bitten on the face and neck by animals proven by inoculation to be rabid. Some of these bites were very severe, but none resulted fatally.

Baltimore.

Kerosene for Mosquitoes.—Health Commissioner Bosley has issued a proclamation to the people, asking their co-operation in the extermination of the mosquito. He advises every householder to pour one gill of kerosene oil into all wells and a proportionate quantity into all pools and drains where stagnant water may collect at least once every two weeks.

MICHIGAN.

Dr. Herbert M. King, Grand Rapids, sailed for England, July 2.

Dr. Conrad Georg, Jr., has been appointed city physician of Ann Arbor.

The Medical Department of the University of Michigan graduated a class of 75, on June 20.

Mr. Frederick Stearns, of Detroit, eminent as a conchologist and pharmacist, and formerly president of the American Pharmaceutical Association, has been given the degree of Master of Arts by the University of Michigan.

MINNESOTA.

The State Board of Medical Examiners issued license to practice to 33 applicants, June 15.

A hospital in connection with the State School for the Feeble-Minded at Faribault is to be constructed, to cost about $11,000.

Hamline University Medical Department held its annual commencement exercises at Minneapolis, June 3, graduating a class of twenty-four. Rev. Marion D. Shutter delivered the address to the class on "Progress and Problems of Medicine."

MISSOURI.

Dr. Frank J. Lutz, St. Louis, has been appointed surgeon-general of Missouri, with the rank of brigadier general.

Dr. William H. Heidorn, Bridgeton, has been appointed a member of the pension examining board vice Dr. Samuel J. Will, Mehlville, resigned.

A hospital is to be built on the grounds of the Confederate Home of Missouri, Higginsville, for the use of inmates of that institution. The legislature has appropriated $15,000 for this purpose, $12,000 of which is to be devoted to the expense of construction and the balance to equipping the hospital.

NEW YORK.

Dr. William Carr, New York City, will sail for Europe July 6.

Dr. F. J. Wagner has been appointed house physician at Riverside Hospital, Buffalo.

New Laboratory.—A new laboratory will be built for and adjoining the New York Medical College and Hospital for Women.

Dr. Frank L. Christian, New York City, has been appointed medical superintendent of the Elmira Reformatory. The salary is $3500 with a residence.

Dr. D. Bryson Delavan has been appointed consulting surgeon, department of laryngology, St. Luke's Hospital, in place of Dr. George M. Lefferts, resigned.

Dr. Paul F. Munde, New York City, who has been for many years professor of gynecology at Dartmouth Medical College, has resigned and has been elected professor emeritus of gynecology.

Smallpox on the Increase.—According to the report of the New York City Board of Health smallpox is on the increase in that city. Twenty-two new cases and one death were reported June 12.

Dr. Theodore Walser, New Brighton, who has rendered such efficient service to Staten Island in the prevention and limitation of epidemic disease, has been appointed sanitary superintendent of the Borough of Richmond.

The Lewis Memorial Cottage Hospital, at New Dorp, Borough of Richmond, given to St. John's Guild, was recently dedicated. The building is of wood, 103 feet long and 34 feet, 10 inches wide. It is intended for the reception of infants that are seriously ill, and the two wards will each accommodate eight infants. The cost of building and equipping the hospital was $10,000.

OHIO.

Dr. Alexander Erwin, Mansfield, has returned from a six months' tour of Egypt and Europe.

A so-called magnetic healer was arrested for illegal practice at Rockford, Mercer County, June 19, and was held to the grand jury in the sum of $500. A man charged with practicing medicine illegally was arrested at Findlay, June 15.

The State Board of Medical Registration and Examination examined thirty-nine candidates for license at Columbus, the regular examination on June 11, 12 and 13. The result of the examination will be made known after the regular meeting of the board in July.

College Changes.—Dr. J. C. Oliver has been made dean of Miami College in place of Dr. N. P. Dandridge, resigned, and Dr. Frank W. Langdon has been elected professor of neurology. Dr. D. I. Wolfstein has been made professor of neurology and Dr. Mark A. Brown, professor of clinical medicine in Cincinnati Medical College. Dr. H. J. Whitacre has been made professor of pathology; Dr. William Muhlberg, professor of physiology and Dr. Fred Forchheimer, professor of practice of medicine, taking the chair of the late Dr. J. T. Whittaker, in Ohio Medical College.

Memorial Volume on the Late Dr. James T. Whittaker.—At the meeting of the Academy of Medicine on June 25, 1900, resolutions of regret at the death of Dr. James T. Whittaker were adopted and ordered printed, together with a memorial volume setting forth the principal events in the life of the distinguished physician. This volume has just been distributed among the members of the Academy. It contains a biographical sketch by Dr. A. G. Drury, editor; also reminescent sketches by Drs. P. S. Connor, Thad A. Reamy, J. L. Cleveland, Joseph Ransohoft, C. D. Palmer, S. C. Ayres, A. Ravogli, S. P. Kramer, John Withrow, C. P. Judkins, T. C. Minor, J. C. McMechan, Koehler, Howard A. Kelly, of Baltimore, and others.

SOUTH CAROLINA.

The Medical College of the State of South Carolina, Charleston, held its seventy-second annual commencement exercises, April 2. A class of thirty-two was graduated, the address to the class being made by Major J. C. Hemphill.

Discrimination in favor of the graduates of the Charleston Medical College, as shown in the bill recently passed by the legislature, which exempts from examination graduates of that college, is strongly condemned by the representative profession of the state, which has been successful in checking the ratification of the bill.

The State Board of Medical Examiners, at its May session, examined 46 applicants, 11 of whom failed to pass. The board unanimously adopted the following resolution: "As the law relating to the practice of medicine in South Carolina is being frequently violated, therefore, be it resolved, that we appeal to the legally licensed physicians of the state and to its intelligent citizens to report all said violations to the board."

TENNESSEE.

Dr. Richard Douglas, Nashville, has resigned from the faculty of Vanderbilt University Medical Department.

Dr. James A. Delaney, Bristol, has been appointed division surgeon on the staff of the commander of the Tennessee Division, Sons of Confederate Veterans.

Memphis Hospital Medical College held its commencement exercises April 26, graduating a class of 190. Prof. J. L. Minor delivered the doctorate address.

Grant University Medical College.—The contract for the construction of the new medical college was let June 12, for $22,622.05. The building is to be completed, April 1, 1902.

The legislature has passed the bill creating a State Board of Medical Examiners and requiring the registration of all physicians. The osteopaths and "Christian Scientists" are exempted from the provisions of the act supposedly because they are not physicians.

TEXAS.

Dallas Medical College, which was recently made the medical department of Trinity University, graduated a class of eight at its exercises, June 18.

The Medical Department of the University of Texas held its eleventh annual commencement exercises at Galveston, June 15, graduating a class of six.

The State Medical Association of Texas has been incorporated with principal office at Austin, and without capital stock, by Drs. Berthold E. Hadra, Taylor Hudson, Robert F. Miller, Henry P. Cooke and Hamilton A. West.

Quarantine in Grayson County.—Acting on authority of the commissioners' court and with the approval of State Health Officer Blunt, County Physician Thomas S. Freeman, of Sherman, declared a quarantine against all houses in which there is smallpox.

WEST VIRGINIA.

Drs. James F. Means and C. Edgar Kahle, Sistersville, have sailed for Germany, where they expect to remain for several months.

Dr. Augustus J. Lyons, Parkersburg, has been elected superintendent of the Second Hospital for the Insane, Spencer, vice Dr. L. V. Guthrie, resigned.

State Board of Health.—Governor White has recently appointed the following gentlemen on the State Board of Health: Drs. D. H. Taylor, Wheeling; D. P. Morgan, Clarksburg; T. F. Lanham, Grafton; S. N. Myers, Martinsburg; J. E. Robins, Claremont; A. G. Staunton, Charleston; A. N. Frame, Parkersburg; W. Varner, Glenville, and A. R. Barbee, Point Pleasant. At the annual session held in Charleston, June 11, Dr. S. A. Myers, Martinsburg, was elected president, and A. R. Barbee, Point Pleasant, secretary. Fifty-four applicants presented themselves for examination. The next session will be held in Huntington, November 11.

GENERAL.

Dr. S. Weir Mitchell, with his wife and daughter, reached San Francisco June 24, after a trip round the world. He has been greatly benefited by the rest and change.

Cuba Has No Yellow Fever.—Yellow fever has been combated with such vigor that not a single death has been reported this year. There has not been a fresh case in Havana for nearly two months; neither are there any cases in other parts of the island.

A Foreign Tribute to the Late Dr. Mergler.—The *Gazette Méd. de Paris* publishes an extended obituary notice of the late Dr. Marie J. Mergler, of Chicago, emphasizing her success in abdominal surgery, and stating that Europe has not yet produced a woman operator of that stamp.

Gift to Harvard.—J. Pierpont Morgan has promised to build three of the five buildings desired by Harvard Medical School. This will involve the expenditure of a million dollars, and the buildings are to be devoted to applied biological research. They are erected as a memorial to the late Julius Spencer Morgan, a native of Massachusetts, and a banker of London, the father of the donor.

Prize Essays on Subjects Connected with Tropical Diseases.—1. A prize of the value of £10 entitled the Sivewright Prize, presented by the Hon. Sir James Sivewright, will be given for the best article on "The Duration of the Latency of Malaria After Primary Infection, as Proved by Tertian or Quartan Periodicity or Demonstration of the Parasite in the Blood." 2. A prize of the value of £10 entitled the Belilios Prize, presented by the Hon. E. R. Belilios, will be given for the best article on "The Spread of Plague from Rat to Rat, and from Rat to Man by the Rat-flea." 3. A prize of the value of £10 entitled the Lady Macgregor Prize, presented by Lady Macgregor, will be given for the best article on "The Best Method of the Administration of Quinin as a Preventive of Malarial Fever." The papers are to be sent to the editors of *The Journal of Tropical Medicine*, 83-89, Great Titchfield Street, London, W., by Dec. 1, 1901. All papers sent in become the property of the *Journal*, and will be published as the editors decide. The competition is open to qualified medical practitioners of all denominations and every nationality. The papers may be written in English, French, German, Italian or Spanish. The names of the prize winners will be announced in January, 1902. The judges are Surgeon-General Roe Hooper, Professor Kenneth MacLeod, and Dr. Patrick Manson.

CANADA.

Outbreak of Smallpox.—Between twenty and thirty cases of smallpox have just been discovered in a small village near Brantford, Ontario. The disease is mild in character and occurs among berry-pickers. Dr. Hodgetts, of Toronto, will have charge of the outbreak.

Appointment.—Dr. W. W. Ford, of McGill College, has been appointed to the new Rockefeller fellowship in the medical faculty of McGill. He will be engaged on some subject connected with the study of preventable diseases, under the direction of Professor J. George Adami. Dr. Ford will spend the coming six months at the Pasteur Institute, Paris.

Toronto General Hospital.—The patients at the Toronto General Hospital on Saturday, June 29, numbered 123 males and 68 females. Admitted during the week: Males, 27; females, 24. Discharged: Males, 38; females, 30. Decrease, 17. Average number of male patients during quarter, 163; female, 78.40. Admission during last quarter: Males, 458; females, 365. Discharged: Males, 444; females, 340.

Resolution re Ontario $2 Assessment.—At the recent meeting of the Ontario Medical Association, a resolution was passed unanimously amid hearty applause, and without a single dissenting voice congratulating the Ontario Medical Council on their determination to make practitioners pay this fee, and approving of its being levied in the future. This action of this important body will strengthen the hands of the Ontario Medical Council and enable it to relegate this bone of contention to oblivion.

New Buildings at McGill.—A graduate of the medical department of McGill University three years ago would hardly recognize the old familiar quarters if he were to return to Montreal to-day. During the past year a complete transformation has been made in the structure. The pathologic department is one of the brightest and best equipped of all the departments in the university, and will become a worthy home for the research work which will be carried on at McGill under the direction of the Rockefeller Institute.

Drinking Decreasing in Ontario.—In 1889 the convictions for drunkenness in Ontario amounted to 4797. In 1899 this had dropped to 1892. a decrease of 2905, or over 60 per cent. In 1889 there was one conviction for drunkenness for every 295 persons, and in 1899 one for every 826. The number of persons to each conviction in the provinces of Canada for the year 1899 is as follows: Ontario, 826; Quebec, 461; Nova Scotia, 448; New Brunswick, 253; Manitoba, 355; British Columbia, 207; Prince Edward Island, 341; the Territories, 180.

Infant Mortality in Montreal.—Ninety-one infants died in Montreal during the week ending Saturday, June 22, and this heavy mortality so early in the summer caused much concern among the members of the Health Committee. For the corresponding week of 1900 the number reached sixty-four and that was considered abnormally high. The principal reasons for this heavy mortality among the infant population of Montreal every summer is given as ignorance on the part of mothers as to how to feed and take care of infants; overcrowding is another cause; want of fresh air is said to be another, and noxious privy pits is set down as another cause. In 1891 Montreal contained 8528 of the privy pits, and now 5201 are in existence. Of one hundred cities in America from which statistics could be secured, Three Rivers, Quebec, has the highest death-rate and Hamilton the lowest. The death-rate in Montreal in 1900 was 24 per thousand. This is equal to New Orleans, at 24.8. The rate of Three Rivers is 36.1; of Hamilton, 12.9.

Manitoba University Prosperous.—Four hundred and seventy-three students wrote this past spring on the examinations of Manitoba University in arts, medicine and law, showing that this, the youngest university in Canada, is forging ahead at a rapid rate. Last January the university opened its new science building, which cost $60,000, where the science faculty now lecture to classes formed of the students of the five affiliated colleges. This university receives a very small grant from the Manitoba government and retains the right to appoint its own professors. Belonging to the university are some 150,000 acres of Manitoba prairie lands, which are now valued at from $750,000 to $1,000,000, and it is from the proceeds of the sales of portions of these lands that funds were secured for the new science building.

Toronto Hospital Notes.—The house surgeons for the coming year were appointed on June 28, for the Toronto General and St. Michael's hospitals. A new feature of these appointments is to be found in the selection of two and possibly three women for the staffs of the two hospitals and one for the Hospital for Sick Children. Dr. Helen MacMurchy has been appointed on the staff of the General, while Dr. Margaret MacCallum has received a similar appointment on the Sick Children's. This would seem to indicate that the women physicians had found a permanent footing in the hospitals of the city of Toronto. The members of the new staff of the General are as follows: From Toronto University—F. A. Cleland, W. H. Cromyn, H. S. Hutchison, A. J. Macdougal and J. H. Trout. From Trinity Medical College—Duncan Anderson, James E. Martin, W. J. Macdonald, E. S. Ryerson, and W. G. Collison. To the staff of St. Michael's have been appointed P. W. O'Brien, R. H. Parent and C. R. Elliott.

Executive Health Officers of Ontario.—The annual meeting of this Association was held at Brantford, Ont., on June 25 and 26, the president, Dr. W. T. Connell, pathologist of Queen's University, in the chair. Smallpox was a theme which received careful attention and school sanitation was also carefully considered. One health officer strongly condemned the kissing habit, while another moved for the appointment of county inspectors. A strong committee was formed, consisting of one member from each county in the province who will endeavor, through local committees, to have by-laws submitted to the people for the establishment of country sanatoria. Prof. J. A. Amyot, of Toronto, contributed an important paper on the "Value of Examinations of Throat Swabs as a Test of Freedom from Diphtheria." Mr. Thomas MacFarlane, chief Dominion Government analyst, contributed a paper on "Moss Purification of Closets." The following were the officers elected: President, Dr. E. E. Kitchen, St. George; vice-president, Mr. Thomas MacFarlane, Ottawa; executive committee. Dr. Pearson, of Brantford, Dr. Hoare, of Walkerville, Dr. D. Dunton, of Paris, Dr. John Herald, of Kingston, and Dr. W. J. Arnatt, of Berlin; secretary, P. H. Bryce, Toronto.

Dominion Registration.—A new suggestion to this scheme of interprovincial registration has been adopted by the Ontario Medical Council. At one of their sessions, Dr. T. G. Roddick, M.P., was present, and delivered an address upon the progress the measure had made in Parliament. The matter was referred to a special committee to report on, and a suggestion brought in by Dr. Britton appealed so strongly to the committee, and subsequently to the whole Council, that it was adopted. This may fairly be set down as the policy of the Ontario Medical Council with regard to this question of Dominion registration. The first 100 or fraction of 100 medical practitioners in each province shall be entitled to one representative. The second 100 or fraction of 100 over 50 per cent. shall be entitled to one representative, and for each subsequent 600 one representative shall be allowed. One representative shall be appointed for each province by the Governor-General in Council. and there shall also be three members elected by such practitioners in Canada as are now recognized by the laws of any province as forming a particular and distinct school of the practice of medicine, and as such are entitled to representation on the Medical Council of the Province. There shall further be one representative for each university having a teaching faculty in medicine or a medical college in affiliation with it.

FOREIGN.

Deaths Abroad.—Among the deaths reported abroad are those of Professor Langenbuch of Berlin, of H. Bauer, privat docent at Giessen, and of Dr. Assmus, the founder of the Samaritan emergency corps at Liepsic.

Smallpox in Paris.—The prophylactic measures taken in Paris against the epidemic of smallpox that has been prevailing there since the Exposition, seem to have little effect, as 1790 cases have occurred since the first of the year, with a mortality of 13 per cent.

The sewage farms around Berlin have had no cases of typhoid or malarial fever during the past year, and only 34 deaths to a population of 40,287. Recent official tests failed to disclose any pathogenic germs in the springs of drinking water or in the outflowing drains.

Plague in India.—The blue book on India, just issued, gives the plague mortality for the five years ended March, 1901, as nearly 600,000. The census shows, for the decade, an increase of less than 6,000,000, instead of the normal 19,000,000. This loss is due to famine and disease.

Professor Panas, of Paris, delivered his last clinical lecture June 17; the hall was crowded with his friends and pupils. Twenty-two years previously on that date he assumed the duties of the newly-created chair of ophthalmology, and to his efforts since is due in great measure the progress of this branch of medicine in France.

Honors to Porro.—May 21 was the twenty-fifth anniversary of the day when Eduardo Porro, of Pavia, performed for the first time the operation that bears his name. Laparotomy was rare in those days and Cesarean section was considered extremely dangerous. Porro was considered a reckless enthusiast and actually threatened with criminal proceedings. His friends and pupils celebrated the anniversary by presenting the master with a gold medal and commemorating the event in other ways.

Medical Chemistry Course at the Institut Pasteur.—A new service has been created at the Pasteur Institute of Paris, called "Service d'analyse et de chimie appliqué à l'hygiène." A course is given which is intended for physicians, pharmacists, and for chemists desiring to familiarize themselves with the manipulations of medical chemistry, analysis of food-stuffs and industrial chemistry where the biological phenomena play a part. The lectures and laboratory work continue during six months, entitling the student to a certificate for the work passed. The course begins in November, 1901, and those desiring to enroll themselves can do so by writing to the Pasteur Institute, Paris.

Germany Lowers the Medical Standard.—The German Bundesrath has officially approved the measure admitting graduates of the technical schools to the medical courses in the universities, in spite of the protests of the profession throughout the country. The *Deutsche Med. Woch.* calls upon physicians to do all in their power to nullify the probable evils of the measure. This, it believes, can best be accomplished by informing the public of the deplorable pecuniary condition of the medical fraternity by addresses at suitable places, articles in the lay press, and especially by a prize pamphlet for wide distribution among parents, like the pamphlet on the evils of quackery, of which 28,000 copies had been distributed up to last October. Medical associations are urged to consider the matter at once. The new measure admits graduates of the Realgymnasien unconditionally, but graduates of the Oberrealschulen have to pass an examination in Latin.

British Congress on Tuberculosis.—This congress will be held at the Queen's Hall, London, from Monday, July 22, to Friday, July 26. There will be four sections: 1, State and Municipal, president, Sir Herbert Maxwell; 2, Medical, including Climatology and Sanatoria, president, Sir Richard Douglas Powell; 3, Pathology, including Bacteriology, president, Prof. G. Sims Woodhead; 4, Veterinary (Tuberculosis in Animals), president, Sir Geo. Brown. The following public addresses will be given to the whole Congress: On Tuesday, by Prof. Koch of Berlin; on Wednesday, by Professor Brouardel of Paris, and on Thursday by Professor McFadyean of the Royal Veterinary College. On the concluding day there will be a final meeting to pass resolutions arising out of the work of the Congress. A number of receptions, excursions, etc., have been planned and a large attendance on the Congress is anticipated. It is possible that on this account the general meetings will be held in St. James Hall, as that is specified in the circular of invitation.

German Congress of Dermatology.—The seventh annual congress of German dermatologists was held at Breslau, the last of May, and was principally devoted to demonstrations and discussions. Neisser exhibited plaster casts of an exanthem resembling in every respect a typical papular syphilid, taken from a pig inoculated with syphilis. Wolff has also had similar success in experimental inoculation. Riehl advocated treating pregnant syphilitics with a local suppository containing 1 gm. of blue ointment, as supplementary to general specific measures. By this means he has succeeded in preventing abortions and syphilitic degeneration in the offspring. Schaeffer reported that the local application of heat to inflammatory cutaneous processes arrested the leucocytosis and transformed the process to a mere serous impregnation and hyperemia. Plato lauded the antiphlogistic action of alcohol compresses. Loewenhardt confirmed the diagnostic value of Roemann's method of testing the functions of the kidneys by the electric conductibility of the urine. Scholz and several others described the remarkable benefits derived from thiosamin in the correction of scar-formation and sclerodermia. The former injects ten parts of thiosamin to twenty parts glycerin and seventy parts water, and exhibited a case of extensive lupus which had threatened deforming contraction of the mouth and nose from the cicatrices until the morbid tendency was arrested by the injections. The sensation of the congress, however, was the presentation of a number of patients cured of lupus at Finsen's "Light Institute." Some were under treatment for an hour a day for a year, in others the cure was more rapid.

PARIS LETTER.

Sanatoria for Consumptives.

The question of sanatoria for consumptives has occupied the attention of the medical public in France to a considerable extent during the last two or three years, and efforts have been made to find the funds necessary to erect a certain number of them. One of the latest constructions of this kind is the sanatorium of Agincourt, which was inaugurated in October last and which has room for 70 inmates. A recent investigation made by the director of the Hauteville sanatorium has shown that there are numerous defects in the organization of this institution. Architecturally the buildings are quite imposing, and perhaps too much stress has been laid on this. The whole of the ground floor has been sacrificed to the hydrotherapic establishment of the medical service, and the storehouse. On the other hand, as not enough room for the patients could be found on the other floors, the attics have been arranged for them. The veranda is not well disposed, being exposed to both wind and rain, but there are several parlors where the patients can congregate, and the dining-room, though perhaps too small, is well aired. Several other defects were noticed, such as the distance at which the kitchen has been placed from the dining-room. The German idea of having a physician as director of the establishment, taking a fatherly interest in the condition of his patients, and being able to watch the nurses and attendants at all times, has not been carried out, and it would certainly be much better to have it done, so that the life at a sanatorium should not resemble too much that in a hospital.

Waldeck-Rousseau's Circular on Antidiphtheric Serum.

It is generally supposed that antidiphtheric serum containing any slight deposit is not so efficacious as the perfectly clear serum, and a certain number of physicians refuse to use any such, as they feel they may cause some harm by doing so. Mr. Waldeck-Rousseau, the Minister of the Interior, has sent a circular to the sanitary inspectors concerning this matter. He remarks that the statistics published by the different inspectors give variable results as to the mortality from diphtheria, and this must be due in part to the treatment followed out. Some physicians are unwilling to use old serum, and lose precious time while waiting for some new. Recent experiments have shown that the properties of serum are still intact after a year, and as for the deposit so often seen, it is in nowise an indication that the serum is worthless. If the injection is made the day the false membranes appear, the death-rate is only 2 per cent., the second day it goes up to 6 per cent., the third day it goes up to 30 per cent., and it is 50 or 60 per cent. the fourth day. Dr. Chantemesse, who is in charge of the hospital for diphtheritic patients, spoke on the same subject at a recent meeting of the Medical Society of the Hospitals. He remarked that physicians had been frightened by the reports of accidents that had taken place as a result of the use of these injections, and he wished to say that there had been a good deal of exaggeration about this. In six years time he had never had occasion to notice any in any infant service he had had. He had noticed that only 5 per cent. had received an injection. From March, 1896, to March, 1901, he received into his service 476 children suffering from diphtheria, and 70 per cent. of them died, which is a mortality of 16.80 per cent.; most of these died the first three days, having been already in a very serious condition. It should be laid down as a rule that one should not wait until a bacteriological examination has been made, but inject all suspicious cases. Dr. Chantemesse's experience has shown him that serum containing a slight deposit was just as active.

Widal's Sero-Diagnosis—New Statistics.

A Danish physician, Dr. Tobiesen, has just published some important statistics on Widal's sero-diagnosis in typhoid fever, founded on 350 cases. There was a positive result in 329 cases with a 1 in 10 solution. Seventeen gave a result with dilutions varying from 1 in 10 to 1 in 25. In two cases there was no result, and in two others with one in five. In thirty cases of death followed by an autopsy, the clinical and bacteriological diagnosis was confirmed by the autopsy. Out of 36 deaths the sero-diagnosis was positive in 35 cases, in the thirty-sixth case it was hardly perceptible with a 1 in 10 solution. As a means of diagnosis this method is excellent, as applied to 289 patients forty hours after admission, it was positive in 215 cases. Dr. Tobiosen examined also a certain number of other patients, 151 in all, and obtained a 1 to 10 reaction in 25 cases and a 1 to 25 in 4 others. Sixty-one healthy subjects gave 8 positive reactions at 1 to 10, and 1 at 1 to 25. It would seem to the author that the sero-diagnosis was only of value in case 1 to 50 dilutions gave a result.

Mercurial Injections.

Dr. Dienpart has just published a work on the treatment of syphilis by injections, in which he analyzes the results of 1062 observations, most of which have been collected in the service of Dr. DuCastel. Seventy-eight injections of calomel were followed by rather indifferent therapeutic results, and gave rise to such complications as pain, inflammatory nodi, but there was neither stomatitis nor diarrhea. One hundred and fifty injections of salicylate of mercury were made according to the formula of Dr. Hallopeau, 14 centigrams being used each time. No serious accidents occurred, but the curative action hardly seemed sufficient. Three hundred and nineteen injections of gray oil were followed by frequent stomatitis, and only cured slight cases, and their use in ordinary practice is rather difficult. Fifteen observations were furnished by Professor Dieulafoy where the solution of biniodid and oil was employed. The results were excellent, especially in visceral syphilis, but a daily visit is found necessary in such cases. The best preparation is the bichlorid serum of Cheron, which only needs to be injected once a week. There is a special tonic action due to the use of the saline solution. The results were most satisfactory.

Pozzi's Speech at Opening of Gynecological Course.

Dr. Pozzi, who has been named professor of gynecology, gave his first lecture at the Broca hospital two weeks ago. He showed in his speeech how difficult it had been to obtain the creation of a professorship of gynecology in Paris, and how he had been working to achieve this during the last seventeen years. It was after a trip to Freiburg in Breisgau, where he visited Professor Hegar's service, that he made out a report which he sent into the faculty, which refused to consider his proposal to deliver lectures. In 1887 he was able to give a supplementary course, and he had always tried to obtain for gynecology a better footing than that which it had at first enjoyed. Specialists were looked upon with some disfavor at first, in France, and the services they could render were but tardily acknowledged. Dr. Pozzi gave a short history of the progress of surgical science, and spoke of the conservative tendencies which were beginning to be felt.

Correspondence.

The Canteen.

HARTFORD, CONN., June 27, 1901.

To the Editor:—I have received some letters from members of the Association who were not present at the St. Paul meeting inquiring if the canteen resolutions passed expressed the judgment of the Association at this meeting. I answer, emphatically, "No." No reliable grouping of facts and conclusions on a question on the good or the bad results from the canteen can be settled from six months' experience or the personal observation of any small number of men, and no question of practical science should ever be forced on the Association in the last hour of its session as if afraid of an open, fair discussion. Beyond this the passage of these resolutions was dangerously revolutionary, indicating the possibility of committing the Association to the indorsement of theories and conclusions which any group of men may formulate and shrewdly wait for an opportunity to have them passed. From the earliest time this Association has refused to sell its influence and prestige for the advancement of any partisan or disputed questions. Almost every year resolutions have been offered indorsing various disputed questions of science and hygiene, some of which were of great interest. These resolutions have always been sent back from the committees to whom they were referred as inexpedient and unwise to be recognized formally by the Association. It is apparent to everyone that it would be suicidal for the Association to take part in controversies on unsettled questions where good men equally competent differ widely as to the facts and their meaning. The Association should always represent the best judgment and convictions of facts that are beyond the range of partisan controversy, and should never be at the mercy of a few men who may force their indorsement of any theory or resolution, particularly by methods that are unusual and in the spirit of dogmatism. All such resolutions point out a source of weakness in the organization, and also indicate a recklessness on the part of partisans who take advantage of this fact. It is very evident that at the next meeting some important changes in the constitution and by-laws should be passed to make it impossible for any faction to commit the Association to the indorsement of views and theories which they wish to formulate. If these canteen resolutions are sustained as the experience of the American Medical Association, the door is open for any supporters of other radical theories or statements which may be offered and pressed to a final vote of acceptance at the right moment by shrewd promoters. I am positive in the assertion that these resolutions utterly fail to represent the conservative judgment of the Association, for the reason that there are medical men as competent to judge, and authorities as reliable, who denounce the canteen and all efforts to reinstate it. In this conflict of theory and opinion the great army of the profession refused to be committed to any one view, but hold themselves open for farther and more conclusive evidence. All scientific sense and good judgment is outraged by immature conclusions and attempts to force opinions and secure their indorsement as final. While the Association as a body is always open to hear the evidence offered by both sides, its final judgment and conclusion to be of any value must be of slow growth and be above all possible suspicion of bias and feeling. If these resolutions do nothing more than awaken the Association to the need of providing against any farther possibility of its prestige and influence being bought and sold to the shrewd manipulator with some motive behind, they will have accomplished a great work.

Outside of the merits of this question, all such resolutions commit the Association to battle grounds of partisanships from which nothing but evil can come. The recognition and acceptance of facts is as inevitable as the growth of the seasons, and no controversy or indorsement is needed, and the canteen or anti-canteen will be decided higher up, and on a very different plane from that of its present partisans.

T. D. CROTHERS, M.D.

"A New Operative Method for Exposing the Seminal Vesicles and Prostate for Extirpation"—A Reply.

NEW YORK CITY, June 29, 1901.

To the Editor:—I am very sorry that Dr. Pyle in his letter in the issue of June 15, questioning my claim to originality with reference to the above operative procedure which appeared in THE JOURNAL of May 4, did not incorporate my reply to the letter he had previously sent me on the subject; had he done so I should not now have occasion to continue the correspondence.

On May 24, I received the following communication from Dr. Pyle:

[Copy] "TOLEDO, OHIO, May 23, 1901.

"*Dr. Eugene Fuller, New York:*

"*Dear Doctor:*—I have had the pleasure of reading your article in THE JOURNAL of the A. M. A., upon a supposed "New Method" of removing the prostate gland, etc. I am somewhat surprised to see from New York sources so many slight modifications of the same operation which I performed and fully laid claim to over eight years ago. About every year some surgeon in or about New York brings out a modification of my operation and claims it as his own without even a mention of my publication or claims. This is, indeed, unjust and unprofessional if the facts are known to the new claimants. I hope that you will make known to the readers of the AMERICAN MEDICAL ASSOCIATION JOURNAL that you have advanced no new id.

unless it is changing my dorsal position into a ventral. I have thoroughly covered every claim for the operation which you make and gave this information to the medical profession as early as May, 1892. Look the matter up. I inclose a reprint from the *Philadelphia Medical Journal* that will afford all the data necessary. Very truly,

[Signed] "John S. Pyle."

To the above letter I sent the following reply:

"New York, May 24, 1901.

"*Dr. John S. Pyle:*

"*Dear Sir:*—In reply to your letter I would state that while writing my recent article I was already cognizant of what you had published. As, however, the operative method you reported in 1892 belonged to Zuckerkandl, who first published it in 1889 (*Wein. Med. Presse*), I saw no good reason for mentioning you among the original workers in the field. I really do not see that I have anything to apologize to you for. If I were in your place, however, I should feel like making an apology to Zuckerkandl. Yours truly,

[Signed] "Eugene Fuller."

Dr. Samuel Alexander of this city tells me that some time ago Dr. Pyle wrote him also, complaining that something he (Alexander) had written in connection with perineal prostatectomy encroached on his (Pyle's) operative territory. Dr. Alexander further informed me that he at the time wrote Dr. Pyle, giving references to the literature on the subject which showed that Dr. Pyle's operation was not original with him. Dr. Pyle's photograph in his article which appeared in the *Philadelphia Med. Journal*, April 1, 1899, shows that his incision is an exact copy of the Zuckerkandl incision.

In the light of my letter to Dr. Pyle, and of Dr. Alexander's correspondence with him, it hardly seems to me that that gentleman has any justification in still ignoring Zuckerkandl and in persisting in his claim to originality. In referring to such action, Dr. Pyle in his letter to me states:

"This is, indeed, unjust and unprofessional if the facts are known to the new claimants."

I have given Zuckerkandl full credit in my article for his work. I am perfectly willing to leave to the medical profession the settlement of the question of credit in this connection. If one will try both the Zuckerkandl operation (the one Dr. Pyle does) and the one I have advocated, he will then be in the proper position to see the radical difference between the two procedures. Yours respectfully,

Eugene Fuller, M.D.

Normal versus Decinormal Salt Solution.

Afton, Ind. Ter., June 20, 1901.

To the Editor:—In The Journal of June 15 is a communication from Dr. C. S. Minnich on normal salt solution; he concludes that the solution meant is the "decinormal," not "normal." "Normal" means "the rule," the general average; if a man, a horse, or a cow has the normal number of teeth, it has the number which is the rule for the species; if a man has in his blood-serum sodium chlorid to the amount of 0.6 to 0.8 per cent., then he has the normal amount; normal for a chemist's test solution or reagent, and normal for human blood are two wholly different "normals;" universal agreement could be made whereby the normal and decinormal of the chemist could be changed; but environment has been unable to change the blood serum of terrestrial animals very much from the sea water, which was their original habitat.

Professor Fish, of Cornell, in his recent article on the blood, in the "Reference Hand-Book of the Medical Sciences," places the soluble inorganic salts at 6.4 parts per 1000, "the principal salt is the chlorid of sodium;" (Edition of 1901, vol. ii, p. 35.) Flint, "Physiology," Fourth Edition, p. 21, places the inorganic salts at 6 to 8 parts per 1000. Samuel M. Brinckner, in "Foster's Reference-Book of Practical Therapeutics," vol ii, p. 321, says: "In the serum of the normal (not decinormal) human body sodium chlorid is found in the proportion of 0.6 per cent. This has been named the normal or physiological salt solution." Now, assuming that the general average, the standard, or the *normal* is 0.6 per cent. and the weight of a pint of distilled water at 60 F. is 7291 grains, then 0.6 per cent. is 43.746 grains of sodium chlorid to make a "physiological" or "normal" salt solution; this is 87.5 grains to a quart, which *happens* to be nearly the same as Dr. Minnich's "decinormal" solution of 89.9 grains, but he again proves himself inexact, for 89.9 grains is the amount for a liter, and a liter is 1.0565 of a quart; more, by nearly 6 per cent. Chemical knowledge is a fine thing, but one must not try to impose arbitrary chemical standards on nature, who fixed her "normals" at a time when the memory of man "runneth not to the contrary." Very respectfully,

R. H. Harper, M.D.

The X-Ray in Quackery.

To the Editor:—In the issue of March 2, there was published an interesting editorial headed: "The *X*-ray in Quackery," which was quite prophetic. Here is the essence of a letter sent me by an upright, intelligent physician from Iowa, which explains itself: "Within a few miles from my office lives a priest-physician who claims to have an improved *x*-ray machine by means of which he told a patient that he had an attack of cystitis, and another that he had a cancer in the stomach and that a few nodules had developed within the last ten days, etc."

The physician, who is anxious to do good work and desired to secure the best apparatus to become as perfect a diagnostician as possible, consulted me concerning the possibilities of the *x*-ray. It is scarcely necessary to inform you that I denounced the priest as a quack and assured my medical friend that there is no machine discovered as yet, which can "transform a human being into glass."

The time is not far distant when the following "Ad." will appear in the newspapers:

"The Microscope outlived! By means of our special improved *x*-ray machines, in a few seconds we can watch how your food is digested in the stomach and how the cells in the brain collapse! Do you suffer from indigestion or headache—come to our laboratory—we will let you see yourself as if you were made of glass!"

What a bad world to live in! Barnum was right: The people want to be humbugged—the quacks are accumulating bank accounts, while the scientific and conscientious practitioner is probably worrying how to meet his rent.

This is all abnormal. There are ways and means to crush quackery if the American physicians were united, but that, so far, is an Utopian dream. *Sic transit gloria mundi!*

Respectfully yours,

Gustavus M. Blech, M.D.

The Virchow Fund.

New York City, July 1, 1901.

To the Editor:—Some months ago a committee consisting of Dr. Reed, President of the American Medical Association, Dr. Bowditch, President of the Congress of American Physicians and Surgeons, Dr. Weir, President of the New York Academy of Medicine, Dr. Welch, of Johns Hopkins University, and the undersigned secretary, published an appeal to the American medical profession requesting contributions to the Virchow fund which was established ten years ago in honor of Rudolf Virchow's 70th birthday, which was reached Oct. 13, 1891. The fund was created for the purpose of fostering biological, anthropological and general medical research. A large German Committee, with national committees formed all over the globe, has undertaken to increase this fund in honor of the coming 80th birthday of the great medical reformer.

Whatever contributions will be raised should be sent to Germany on the first day of September in order to be received and acknowledged by the central committee in due time. As our former notices may have been overlooked by such as are anxious to show their appreciation of the great master and to aid the cause represented by his life-long labors, we herewith repeat our appeal.

A. Jacobi, M.D., Secretary,
110 West 34th Street.

Book Notices.

ATLAS AND EPITOME OF THE NERVOUS SYSTEM AND ITS DISEASES. By Professor Dr. Christfried Jakob, of Erlangen. From the Second Revised German Edition. Edited by Edward D. Fisher, M.D., Professor of Diseases of the Nervous System. University and Bellevue Hospital Medical College, New York. With 83 plates and copious text. Cloth, $3.50 net. Philadelphia and London: W. B. Saunders & Company. 1901.

This work has been for some time known to students in its German edition and this authorized translation under the direction of Dr. Fisher will widely increase the knowledge of its advantages. As the Editor says and we can thoroughly agree with him, there is, so far as known, no work in which so much is compressed within so small a space, and it fills a place in the literature that has long needed such filling. The illustrations are well selected and exceedingly good. The explanations are clear and ample. The book is divided into six parts: 1, the morphology of the nervous system; 2, its development in structure and histology; 3, the anatomy and physiology of the more important nerve pathways: 4, general pathology and treatment of diseases of the nervous system; 5, special pathology; it concludes with some remarks on autopsy and microscopic examinations. The book has an excellent though not too extensive index. The translation, so far as we have been able to examine the work, seems to be a satisfactory one; and the book being one of the series known as Saunders' Medical Hand-Atlases, nothing need be said as to the beauty of the illustrations.

ATLAS AND EPITOME OF LABOR AND OPERATIVE OBSTETRICS. By Dr. O. Schaeffer, of Heidelberg. From the Fifth Revised German Edition. Edited by J. Clifton Edgar, M. D., Professor of Obstetrics and Clinical Midwifery, Cornell University Medical School. With 14 lithographic plates, in colors, and 139 other illustrations. Cloth. Price, $2.00 net. Philadelphia and London; W. B. Saunders & Company. 1901.

Outside of anatomy there is no branch of medicine and surgery that is as difficult to demonstrate as that of obstetrics, and it might be said with truth, as regards many colleges, that there is no important part of the physician's duty that is so poorly taught as midwifery. Hence, the young physician, anxious to understand and to be prepared for the various complications in this part of his work, will be more than gratified at the graphic and practical illustrations contained in this little book. These illustrations in colors are works of art, and cover all the various positions, normal and abnormal, and illustrate all the operations in midwifery, including Cesarean section. While sufficient text accompanies the illustrations to explain them, the book is not intended as a text-book; but as a companion to the ordinary text-book on obstetrics it will be a great help to the beginner.

THE EXTRA PHARMACOPEIA. By William Martindale, F.L.S., F.C.S., Late President and Examiner of the Pharmaceutical Society, and W. Wynn Westcott. M.B., Lond., D.P.H., Coroner for Northeast London. Tenth Edition. Cloth. Pp. 688. Price, 10 shillings, 6 pence. London: H. K. Lewis. 1901.

This little book has been brought up to date, including the results obtained through revisions of the various Pharmacopeias since the last edition of the British Pharmacopeia. It is conveniently arranged, and contains all the preparations of the British Pharmacopeia, with references to therapeutic experience from various sources. It embodies a list of the drugs, as well as the sections on antitoxin and organotherapy, analytical memoranda with chemical tests, etc., and a therapeutic index of diseases and symptoms. The journals referred to are largely British, though a few American ones are included. A rather significant and useful table gives the 121 preparations most commonly ordered in the total of 25,000 prescriptions, which forms, as the author says, a therapeutic reflex of British medical practice. The addenda generally are very convenient for reference, and as the preparations of the British Pharmacopeia are often referred to in American medical literature, the usefulness of the work to American readers can be readily appreciated.

ORAL SURGERY. A Text-Book on General Medicine and Surgery as Applied to Dentistry. By Stewart Le Roy McCurdy, A.M., M.D., Professor of Anatomy and Surgery, Pittsburg Dental College. Cloth. Pp. 368. Price, $3.00 net. Pittsburg, Pa.: The Calumet Publishing Co. 1891.

This little volume is intended especially for the "practicing dentist." The author says that "general pathology can in no way differ from pathological changes in the mouth up to a certain period, etc." While the clumsily expressed principle outlined herein is to a certain extent correct, still the subject is treated in a very superficial manner. Special works on general medical subjects for the dental practitioner were once needed, but since the specialty is a department of medicine such works are no longer required. The author offsets unsound dictum by the remark that "some knowledge of all these subjects, however, is necessary." Dental specialists, however, require as much medical training as ophthalmologists, rhinologists, otologists, etc.

The oral surgeon will gain no general knowledge from this book, at least not sufficient to pay for the time lost in its perusal. The oral or dental surgeon is hungry for general pathology and underlying principles, but these must be obtained from standard works upon practice and pathology.

APHORISMS, DEFINITIONS, REFLECTIONS, AND PARADOXES, Medical, Surgical and Dietetic. By A. Rabagliati, M.A., M.D., F.R.C.S. Ed., Late President of the Leeds and West Riding Medico-Chirurgical Society. Cloth. Pp. 291. Price, $2.50. New York: Wm. Wood & Co. 1901.

This work is a series of reflections on medical subjects; largely on the importance of diet and its errors in the production of disease. The author is a neologist from the beginning, though the additions to our language which he makes are not so numerous as they are prominent in this book. It is a thoughtful work that almost any physician can pick up and read with interest, though he may occasionally find some minor point where he may disagree with the author. Nearly all disorders, according to the author's views, arise from errors in the diet; eating too much, or eating too often, or what he calls polysiteism and pollaki-siteism. The book belongs to a class that is perhaps less common at the present time than it was earlier in the history of medicine, but that does not mean that it is a work behind the times. It contains a great deal of valuable matter that is suggestive where it may not be directly instructive, and it often is both.

PATHOLOGY AND MORBID ANATOMY. By T. Henry Green, M.D., F.R.C.P., Physician and Special Lecturer on Clinical Medicine at Charing Cross Hospital. Revised and Enlarged by H. Montague Murray, M.D., F.R.C.P., Physician to Out-patients and Lecturer on Pathology and Morbid Anatomy at Charing Cross Hospital. Ninth American Revised from the Ninth English Edition by Walton Martin, Ph.B., M.D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, Columbia University. With 4 colored plates and 339 illustrations. Cloth. Pp. 585. Price, $3.25. Philadelphia and New York: Lea Brothers & Company. 1900.

Green's pathology has been before the student public of this country so long and is so well and favorably known, that a new and thoroughly revised edition should be welcomed. In this volume, the English edition has been thoroughly revised by Dr. H. Montague Murray, a large part of the subject matter rewritten, and the American edition has been edited by Dr. Walton Martin, who has supplied special chapters. The work in its present form deserves to fully retain the favor that it has heretofore received.

A MEDICOLEGAL MANUAL. By William W. Keysor, Lecturer on Medical Jurisprudence in the Omaha Medical College, and Judge of the District Court, Omaha, Neb. Cloth. Pp. 316. Price, $2.00. Omaha: The H. J. Penfold Co. 1901.

This work is the production of a lawyer rather than a physician, and therefore, we may look for some errors on the purely medical side. For example, in defining delusion, the author seems to have a very imperfect appreciation of the meaning of the word. Another instance is in his mention of certain forms of monomania so-called, among which he includes puerperal mania as a disposition of women recently delivered to destroy their offspring. The legal side of the work, however, we can not criticise, and presume that it is correct and reliable as regards special legal points where medical questions are not especially involved, at least as of first importance. While we can not advise it as a perfectly correct and safe manual to follow on medical questions, on other points it may be and probably is satisfactory.

Atlas and Epitome of Obstetric Diagnosis and Treatment. By Dr. O. Schaeffer, of Heidelberg. From the Second Revised German Edition. Edited by J. Clinton Edgar, M.D., Professor of Obstetrics and Clinical Midwifery, Cornell University Medical School. With 122 colored figures on 56 plates, 38 other illustrations, and 317 pages of text. Cloth. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Company. 1901.

This volume is really a companion to the volume referred to above, and all that is said of that volume could be repeated here. The book now before us is, however, more pretentious, is more of a text-book and has a greater didactic value. The illustrations are of the same high order that has characterized this series of Medical Hand-Atlases. The extremely low price at which such books can be sold is possible only from the fact that the plates are used to print not only the series published in this, but a similar series in several other countries.

A Short Practice of Gynecology. By Henry Jellett, B.A., M.D., B.Ch., B.A.O. (Dublin University), F.R.C.P.I., L.M., Late Assistant Master, Rotunda Hospital. With 125 Illustrations. Cloth. Pp. 436. Price, $2.63. London: J. & A. Churchill, Philadelphia: P. Blakiston's Son & Co. 1900.

This work was written, as the author says, for the object of affording a concise account of gynecologic diseases and their treatment. He has certainly condensed within its four hundred and odd pages a large amount of information. He has used material from various sources, both in the selection of illustrations and by consulting authorities. There is nothing theoretic about it; various conditions and operations are described in a brief, concise way, and the illustrations are generally well selected for the purpose of illustrating the conditions. We would not advise it as a text-book to supplant the larger and more thorough works, of which there are so many, but in its small way it will fill a useful place.

A Practical Treatise on Diseases of the Skin, for the Use of Students and Practitioners. By James Nevins Hyde, A. M., M. D., Professor of Skin, Genito-Urinary and Venereal Diseases, Rush Medical College, and Frank Hugh Montgomery, M. D., Associate Professor of Skin, Genito-Urinary and Venereal Diseases, Rush Medical College. Sixth and Revised Edition. Illustrated with 107 engravings and 27 plates in colors and monochrome. Cloth. Pp. 828. Price, $4.50. Philadelphia and New York: Lea Brothers & Co. 1901.

Sufficient evidence of the popularity of this treatise is given by the fact that this, the sixth edition, follows the fifth in practically a year. The authors have taken advantage of the opportunity for further revision of the work and brought it down to date, many of the chapters being entirely or partly rewritten, with the addition of some new plates and engravings.

Obstetrics. A Manual for Students and Practitioners. By David James Evans, M.D., Lecturer on Obstetrics and Diseases of Infancy, McGill University, Montreal, Canada. Series Edited by Bern B. Gallaudet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Illustrated with 149 engravings. Cloth. Pp. 430. Price, $1.75. Philadelphia and New York: Lea Brothers & Company.

This is one of Lea Brothers' pocket text-books requiring a rather large pocket, but it appears to be one that will fill a useful place and be a convenient reference handbook on obstetrics. The book is well illustrated and clearly written, and is apparently all that it pretends to be.

Lessons in the Anatomy, Physiology and Hygiene of Infancy and Childhood, for Junior Students. By Alfred C. Cotton, A.M., M.D. Cloth. Pp. 174. Illustrated. Price, $1.50. Chicago: Chicago Medical Book Company. 1901.

This volume comprises extracts from lectures delivered by the author at Rush Medical College, on the anatomy, growth, physiology and hygiene and nourishment, of the new-born, with chapters on milk analysis, weaning, foods, etc. The work is fully illustrated and contains much practical information on the subjects treated.

Eczema, with an Analysis of Eight Thousand Cases of the Disease. By L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital. Third Edition of Eczema and its Management entirely Rewritten. Cloth. Pp. 368. Price, $1.25. New York and London: G. P. Putnam's Sons. 1901.

The third edition shows a vast amount of creditable work, but hardly reaches the standard of the preceding edition. Condensation would have added materially to the value of the volume.

A Compend of Diseases of the Skin. By Jay F. Schamberg, A.B., M.D., Professor of Diseases of the Skin, Philadelphia Polyclinic and College for Graduates in Medicine. Second Edition. Revised and Enlarged. With 105 Illustrations. Cloth. Pp. 291. Price, $0.80. Philadelphia: P. Blakiston's Son & Co. 1900.

This little work is a successful compilation and a very useful volume to the student.

Married.

C. H. Waite, M.D., to Miss Constance Webber, of Ann Arbor, June 20.

Albert A. White, M.D., Trinidad, Colo., to Miss Bixler, of Denver, June 12.

Charles E. Humiston, M.D., Chicago, to Miss Myrtle J. Wheeler, June 17.

Charles Emil Brack, M.D., to Miss Mary A. Grob, both of Baltimore, June 9.

William E. Burton, M.D., to Miss Blanche V. Dougherty, at Baltimore, June 12.

Herbert W. Rayner, M.D., to Miss S. Lois McChesney, of Minonk, Ill., June 24.

William Albert Nitze, M.D., to Miss Annina Hilken, both of Baltimore, June 8.

John D. Dameron, M.D., to Miss Ella Wheeler, both of Stockton, Cal., June 12.

Herman S. Judd, M.D., Lead, S. D., to Miss Marie Norton, of Topeka, Kan., July 3.

Arnold A. D'Ancona, M.D., to Mrs. Lillian D'Ancona, both of San Francisco, June 10.

John Mann, M.D., to Miss Nannie Caskie Scott, both of Petersburg, Va., June 19.

Carl Raver, M.D., Sacramento, Cal., to Miss Tina Masten, of Ann Arbor, Mich., June 21.

Leslie W. Snow, M.D., to Mrs. Ida Daynes Cannon, both of Salt Lake City, Utah, June 11.

John B. Slicer, M.D., to Miss Eva Cecilia England, at Elkton, Cecil County, Md., June 12.

Percy Louis Kaye, M.D., Philadelphia, to Miss Marie L. Waltham, of Baltimore, June 20.

James Foster Scott, Jr., M.D., to Miss Fannie George, of Blooming Grove, Texas, June 12.

Alfred O. Peterson, M.D., Omaha, Neb., to Miss Eva Newbie Bolshaw, of Lincoln, Neb., June 12.

Alexander J. Slaven, M.D., to Miss Tassie Katherine Ohmer, both of Dayton, Ohio, June 10.

Fred Jackson Jarvis, M.D., Delta, Iowa, to Miss Irene E. Parsons, of Iowa City, Iowa, June 20.

Upton Darby Nourse, M.D., to Miss Alice Windsor, at Darnestown, Montgomery County, Md.

William R. Marsden, M.D., Utica, N. Y., to Miss Rose Olive Stevens, at Whitesboro, N. Y., June 12.

Melvin C. Millet, M.D., Rochester, Minn., to Miss Mary Albertine Frick, of Minneapolis, June 12.

William Bullock, M.D., Grundy Center, Iowa, to Miss Nellie Kessler, of Solon, Iowa, June 19.

Edward T. Burnham, M.D., Wilmington, Del., to Miss Elma Cecilia Sheppard, of Baltimore, June 19.

Fred Harwood Powers, M.D., to Miss Celeste Webb, at Vienna, Dorchester County, Md., June 19.

Theodore Stuart Hart, M.D., to Miss Mary Ayers Wolcott Robbins, both of New York City, June 26.

James Francis McKernon, M.D., to Miss Anna Madeline Wittmeyer, both of New York City, June 26.

Samuel Boyce Craton, M.D., to Miss Annie Fairbanks Hutchinson, both of Syracuse, N. Y., June 12.

William T. Barry, M.D., Salinas, Cal., to Miss Julia V. Morse, of Chicago, at San Francisco, May 28.

Charles A. Sinsel, M.D., Grafton, W. Va., to Miss Mary Davidson, of Taylor County, W. Va., June 19.

William H. Harrison, M.D., Houston, Texas, to Miss Nannie J. Robinson, of Chattanooga, Tenn., at Houston, June 19.

Erasmus Mortimer Garrott, M.D., to Miss Mary Kretzer Adams, both of Sharpsburg, Washington County, Md., June 12.

Harvey Moore Wallace, M.D., Spottswood, Augusta County, Va., to Miss Lucy Waddell Baker, of Staunton, Va., June 5.

Alexander F. Magruder, M.D., a retired naval officer with the rank of inspector, of Washington, D. C., to Mrs. Ida Newton Gulick, of New York, at Baltimore, June 20.

Sidney O. Heiskell, M.D., assistant health commissioner and superintendent of the quarantine station, Baltimore, to Dr. Doralyn Bryan, formerly head nurse at Baltimore University Hospital, at Philadelphia, June 11.

Deaths and Obituaries.

Erastus J. Buck, M.D., Jefferson Medical College, Philadelphia, 1854, who was injured in a runaway accident June 7, died at his home in Platteville, Wis., June 21, aged 72. He was a member of the Wisconsin legislature in 1860-1861, raised a company of sharpshooters in 1861, served as first lieutenant, then resigned to become surgeon, and in this capacity served throughout the war. He had practiced in Platteville since 1868. He was a member of the American Medical Association.

Edwin E. Waite, M.D., Bellevue Hospital Medical College, New York, 1877, a well-known practitioner and some-time physician to the overseers of the poor, and city physician of New Bedford, Mass., died at his home in that city, June 20, from pulmonary hemorrhage, after a long illness, aged 43.

Robert J. Martin, M.D., New York University, 1887, a leading young physician of Augusta, Me., and surgeon of the Second Infantry, N. G. S. M., lost his life, June 16, while endeavoring to save a woman from drowning at Belgrade Lakes, near Augusta. He was 36 years of age.

George W. Beal, M.D., Ohio Medical College, Cincinnati, 1863, a pioneer of Montana, died June 8 at his home in German Gulch, Mont., from shock consequent on injuries received by a fall from his wagon, aged 75. He was mayor of Butte in 1881 and prominent in territorial politics.

Ludwell G. Thacker, M.D., Bellevue Hospital Medical College, New York, 1866, a prominent physician of Northwestern Ohio, and a member of the American Medical Association, died at his home in Defiance, June 20, from consumption, aged 48.

Charles P. Chesley, M.D., Cooper Medical College, San Francisco, 1870, an esteemed practitioner of San Francisco, and a member of the American Medical Association, died June 14, from Bright's disease, after an illness of two years, aged 67.

George Hosmer Magness, M.D., Bellevue Hospital Medical College, New York, 1876, died at his home in White Plains, N. Y., aged 50. He was president of the Health Board, and a member of the Weschester County Medical Society.

William Irving, M.D., Trinity Medical College, Toronto, Ont., 1874, an old and highly respected practitioner of St. Mary's, Ont., died at his home in that place, June 19, from pneumonia following inflammatory rheumatism.

William Conrad Smith, M.D., University of Pennsylvania, Philadelphia, 1850, who had practiced at and around Linglestown, Pa., for more than half a century, died suddenly at his home in that place, June 16, aged 72.

William L. Nichol, M.D., University of Pennsylvania, Philadelphia, 1849, an old practitioner of Nashville, Tenn., and formerly surgeon in the United States Navy, died at his home in Nashville, June 23, aged 73.

Timothy Newell, M.D., Vermont Medical College, Woodstock, 1850, practitioner in Providence for nearly half a century, and a surgeon in the Civil War, died at his home in Providence, June 20, aged 81.

William J. Campbell, M.D., Harvard Medical School, Boston, 1900, house physician at the Worcester City Hospital, died June 14, aged 26, of smallpox contracted from a patient for whom he was caring.

Aaron Lewis, M.D., Indiana Medical College, La Porte, Ind., 1846, for many years a practitioner of Waukegan, Ill., died at the home of his daughter in Louisa, Va., June 24, aged 83.

Andrew F. Wright, M.D., Kentucky School of Medicine, Louisville, 1859, died at his home in Sherman, Texas, where he had practiced for twenty-five years, June 14, aged 76.

Benjamin F. Reynolds, M.D., Jefferson Medical College, Philadelphia, for many years a practitioner of Pittsburg, Pa., died at his home in Hulton, Pa., June 12, aged 67.

Westervelt Banta, M.D., Niagara University, Buffalo, N. Y., 1888, died at his home in Buffalo, N. Y., June 17, from cancer of the stomach, after an illness of two months.

Achbor J. Baker, M.D., University of Michigan, 1886, of Grafton, W. Va., was drowned, June 24, in an ineffectual attempt to save his 8-year-old son from drowning.

William H. Briggs, M.D., Geneva Medical College, Geneva, N. Y., 1844, for many years a practitioner of Rochester, N. Y., died at his home in that city, June 14, aged 79.

Van Buren Dixon, M.D., who was committed to Montevue Hospital for the Insane, at Frederick, Md., February, 1899, died there, June 8, from paralysis, aged 62.

Arthur J. Dresser, M.D., one of the physicians at the State Hospital at Tewkesbury, died at that place, June 11, from typhoid fever, after a long illness, aged 26.

George H. Preston, M.D., New York University, 1879, a practitioner of Kane, Pa., ever since his graduation, died at his home in that place, June 11, aged 45.

Edward L. Groess, M.D., University of Buffalo, 1893, of Buffalo, died at his home in Black Rock, June 19, from paralysis of the heart, aged 38.

Lee Wood, M.D., University of Tennessee, Nashville, 1890, of Abbeville, La., died at Warsaw, Ark., June 14, after a prolonged illness.

Alanson T. Smith, M.D., New York University, 1885, of Brooklyn, N. Y., died at his home in that place, June 17.

James M. Cole, M.D., a charter member of the Winona County (Minn.) Medical Society, died recently.

John Bryan, M.D., an old physician of Cincinnati, died at his home in that city, June 11, aged 75.

Societies.

Baltimore and Ohio Association of Railway Surgeons.—At the annual meeting of this Society, held in Chicago, May 31 and June 1, Dr. Thomas H. White, Connellsville, Pa., was elected president. The next meeting will be held in Atlantic City, N. J., in June, 1902.

Manchester (N. H.) Medical Association.—At the annual meeting of this Society, held June 14, Dr. James S. Brown was elected president; Dr. J. Franklin Robinson, vice-president; Dr. Arthur F. Wheat, secretary; Dr. William H. Pattee, treasurer, and Dr. Walter T. Crosby, pathologist.

Des Moines Valley (Iowa) Medical Association.—The thirtieth annual meeting of this Association was held at Ottumwa, June 20. Dr. France C. Roberts, Fort Madison, was elected president; Dr. Henry C. Eschbach, Albia, vice-president, and Dr. Murdock B. Bannister, Ottumwa, secretary-treasurer.

Dorchester (S. C.) Medical Association.—This Association was organized at St. George, Dorchester County, S. C., June 10, and elected the following officers: Dr. P. L. Horn, St. George, president; Dr. F. Julian Carroll, Summerville, vice-president: Dr. J. B. Johnson, secretary, and Dr. Perry M. Judy, St. George, treasurer.

Hennepin County (Minn.) Medical Society.—At the annual meeting of this Society, held at Minneapolis, June 17, Dr. Henry L. Staples was elected president; Dr. Frank C. Todd, vice-president; Dr. Arthur E. Benjamin, secretary; Dr. William H. Condit, treasurer, and Dr. George D. Head, librarian, all of Minneapolis.

Central District (Iowa) Medical Society.—At the meeting of this Society at Greenwood Park, Des Moines, June 18, Dr. Josiah D. McVay, Lake City, was elected president; Dr. John I. Hostetter, Colo, vice-president, and Dr. George H. Stanger, Boone, secretary-treasurer. The next meeting will be held at Boone in December.

Aberdeen District (S. Dak.) Medical Association.—The fourth quarterly meeting of this Society was held at Aberdeen, June 18. The following officers were elected: Dr. William E. Edwards, Bowdle, president; Dr. Frank Miller, Aberdeen, vice-president, and Dr. George E. Countryman, Aberdeen, secretary and treasurer.

West Chicago Medical Society.—This Society was organized June 18, and the following officers were elected: Dr. Emil D. St. Cyr, president: Dr. Oscar G. Wernicke, vice-president; Dr. George M. Silverberg, treasurer; Dr. Gustavus M. Blech, secretary, and Drs. Arthur M. Shabad, Frederick W. Henkel, Julius M. Abelio and S. Brownstein, executive council.

South Dakota Medical Society.—The annual meeting of this Society was held in Huron June 11 and 12. The following officers were elected: Dr. Cheney C. Gross, Yankton, president; Drs. John Owen Duguid, Springfield, and Byron A. Bobb, Mitchell, vice-presidents; Dr. James L. Stewart, Irene, secretary and treasurer, and Dr. Henry B. Scofield, Scotland, assistant secretary. The Society will meet next year in Scotland.

Alumnae Association of the Northwestern University Woman's Medical School.—The annual meeting of this Association was held at the college, June 20. The following officers were elected: Dr. Annie White Sage, president; Drs. Vira A. Brockway and Catherine Angell Warthern, vice-presidents; Dr. Eliza H. Root, secretary; Dr. Mary Gilruth McEwen, assistant secretary, and Dr. Mary C. Hollister, treasurer.

Alumni Association of the Medical College of the State of South Carolina.—The Association held its annual meeting at the close of the graduation exercises of the college and elected the following officers: Dr. Julius A. Mood, Sumter, president; Drs. Robert L. Brodie, of Charleston, W. D. Ferguson, of Laurens, P. Gourdrin DeSaussure, of Charleston, and O. A. Matthews, of Newberry, vice-presidents, and Dr. C. Bunting Colson, Charleston, secretary and treasurer.

Illinois Association of Military Surgeons.—The annual meeting of this Association was held in Chicago, June 18. Colonel Nicholas Senn, surgeon-general, and Lieutenant-Colonel Charles Adams were re-elected president and secretary, respectively, and Major Thomas J. Sullivan, surgeon Seventh Infantry, I. N. G., was elected vice-president to succeed Major Truman W. Miller, deceased. The Association will hold its next meeting at Moline in October.

American Orthopedic Association.—At the meeting of this Association, held at Niagara Falls, N. Y., May 11, 12 and 13, the following officers were elected: Dr. H. Augustus Wilson, Philadelphia, president; Drs. William J. Taylor and Gwilym G. Davis, Philadelphia, vice-presidents; Dr. John Ridlon, Chicago, secretary, and Dr. Elliott G. Brackett, Boston, treasurer. Philadelphia was chosen as the place for the next meeting in May, 1902.

Maine Medical Association.—The forty-ninth annual meeting of this Association was held in Portland, June 12, 13 and 14. The president, Dr. Edward H. Hill, Lewiston, in his address, considered at length the subject of tuberculosis. The election of officers resulted as follows: Dr. Frederic H. Gerrish, Portland, president, and Drs. Charles E. Philoon, Auburn, and J. M. Willis, Guilford, vice-presidents. The annual oration was delivered by Dr. Edward Reynolds, Boston, on "The Use of Gynecology by the General Practitioner."

Class of 1876 of the Department of Medicine of the University of Pennsylvania.—This body held its first annual banquet at the University Club, Philadelphia, June 11, and effected a permanent organization for the benefit of its alma mater. The following officers were elected: Dr. Charles A. Oliver, president; Dr. William H. Klapp, vice-president; Dr. Francis M. Perkins, secretary, and Dr. Benjamin F. Baer, treasurer, all of Philadelphia, with an executive committee of twelve which will meet at the call of the president.

North Missouri Medical Association.—This Association held its annual meeting at Monroe City, June 20 and 21. The officers for the ensuing year are as follows: Dr. S. M. Brown, Monroe City, president; Drs. W. S. Thompson, Armstrong, and W. G. Yates, Collis, vice-presidents; Dr. Robert Haley, Brookfield, treasurer; Dr. L. W. Dallas, Hunnewell, recording secretary, and Dr. William A. B. McNutt, Monroe City, corresponding secretary. The Association adjourned to meet at Macon City, June 19 and 20, 1902.

Arizona Medical Association.—The most successful meeting ever held by this body was convened in Phoenix on May 22. A large part of the time was used in reading and discussing papers upon the climatology of Arizona, with special reference to tuberculosis, and diseases of the kidneys and bladder. Seventy-six per cent. of the regular practitioners of Arizona are members of the Association. The next meeting is to be held in Tucson, May 21 and 22, 1902. The following officers were elected: Dr. H. W. Fenner, Tucson, president; Dr. H. H. Stone, Phoenix, O. E. Plath, Phoenix, and O. S. Boido, Tucson, vice-presidents; Dr. George M. Brockway, Florence, treasurer, and Dr. Charles H. Jones, Tempe, secretary.

Massachusetts Medical Society.—The 120th annual meeting of this Society was held in Boston, June 11, 12 and 13. The following officers were re-elected: Dr. Frank W. Draper, Boston, president; Dr. William W. Eaton, Danvers, vice-president; Dr. Edward M. Buckingham, Boston, treasurer; Dr. Charles W. Swan, Brookline, corresponding secretary; Dr. Francis W. Goss, Roxbury, recording secretary, and Dr. Edwin H. Brigham, Boston, librarian. Dr. David W. Cheever, president of the Boston Medical Library, presented its claims. On the new building there had been raised and expended $73,000, and there was a mortgage of $50,000. The library needed an endowment for new books, and in addition to a request for this, Dr. Cheever urged the fellows of the society to become associate members, to use the library and to support it.

Buffalo Academy of Medicine.—The annual meeting of the Academy was held June 11. The election of officers resulted as follows: Dr. Charles G. Stockton, president; Dr. Francis W. McGuire, secretary; Dr. Charles S. Jewett, treasurer, and Dr. Matthew D. Mann, trustee. The permanent funds now amount to more than $1300, and it is hoped that the Academy may some day own its building. In his address the retiring president, Dr. Marcell Hartwig, declared that free hospitals and dispensaries had nearly ruined private practice and that hospitals were often hostile to the medical profession. He also complained of persons of wealth patronizing hospitals instead of calling in their family physician. As a remedy he urged that physicians should amalgamate, and build and maintain their own hospitals so that they may be free to act and not be the tools of a lay board of trustees or managers.

Society of the Alumni of the Medical Department of the University of Pennsylvania.—At the annual meeting of this Society, June 11, a portrait of Prof. John Ashhurst, Jr., was presented by the class of 1901, and received by Dr. Frederick A. Packard on behalf of the Board of Trustees. It was announced that the Alumni medal had been awarded to Homer J. Rhode, of Kutztown, Pa. The following officers were elected: Dr. James Tyson, Philadelphia, president; Drs. Horace Y. Evans, Charles K. Mills, Samuel D. Risley and Frederick A. Packard, of Philadelphia, William W. Johnston, of Washington, D. C., Howard Kelly, of Baltimore, Grover W. Wende, of Buffalo, N. Y., and Edward Jackson, of Denver, Colo., vice-presidents; Dr. Roland Curtin, Philadelphia, historian, and Dr. Wm. J. Wadsworth Philadelphia, secretary and treasurer.

Association of American Medical Editors.—The annual meeting of this Association was held at St. Paul, June 3, 4 and 5. At the instance of Dr. Foster, a committee, consisting of Drs. George H. Simmons, editor of The Journal, George M. Gould, of *American Medicine*, and Burnside Foster, of the *St. Paul Medical Journal*, was appointed to amend the constitution and by-laws of the Association by adding certain rules concerning the nature of the advertising to be admitted to the pages of the journals in affiliation with the Association. These rules are to be binding on all members, the committee also being advised to suggest such revision of the constitution and by-laws as may be deemed advisable. The annual dinner of the Association was held June 3, President Stone acting as toastmaster. The officers for the ensuing year are: Dr. Alexander J. Stone, St. Paul, president; Dr. Burnside Foster, St. Paul, vice-president, and Dr. O. F. Ball, St. Louis, secretary and treasurer.

THE AMERICAN PROCTOLOGIC SOCIETY.

Third Annual Meeting, held at St. Paul, Minn., June 4 and 5, 1901.

President Dr. James P. Tuttle, New York City, in the chair.

Malignant Tumors of the Rectum.

The president, **Dr James P. Tuttle**, New York City, delivered the Annual Address on the above subject. He divided malignant tumors into four classes: Connective, epithelial, muscular, and irregular tissue growths.

He described 43 cases from his own practice, and from the literature of the subject; of these 29 of the melanotic type and 14 of the non-melanotic. Sarcomas occur in the rectum as round or elliptical irregular deposits beneath the mucous membrane, sometimes resembling a hypertrophied tonsil. They rarely, if ever, assume the smooth plaque-like form seen in carcinoma, the surface being always rough, unequal, "muriform," and the mucous membrane being movable over the growth in its earlier stages, are conditions which distinguish them from carcinoma. They originate in the submucosa, may appear as sessile tumors, and eventually develop a distinctly polypoid shape. They may also appear as a general fibrous thickening of the wall and be mistaken for simple inflammatory stricture. The mucous membrane covering sarcomas is comparatively normal, although if the tumor becomes very large, the membrane may become congested, edematous, or ulcerated, and even adherent to the growth through inflammatory processes. Sarcomas in the rectum are either single or multiple, and vary in size from a hazel nut to a good-sized orange. Sarcomas of the rectum present a variety of colors, generally that of the normal mucous membrane, although sometimes they are dark red, grayish-black, bright red, pale-yellowish pink, or as black gangrenous masses. Often in the multiple form, the different tumors will present varying appearance. Sarcomas may occur at any portion of the rectum or sigmoid, but the majority are situated low down near the anal margin. Sarcomas differ from carcinomas by their rapid growth. Unlike sarcomas in other portions of the body, these sarcomas are said to have a distinct tendency toward ganglionic infection. Metastasis is one of the chief characteristics of sarcomas of the rectum. If the growth be primary, all possibility of metastatic deposit should be eliminated, or else the operation will be of no avail. A complete résumé of the histology was given under the following heads: Round or globe-cell sarcomas, spindle or fusiform, giant cell, alveolar, and mixed. Melanosis does not alter the type of the tumor or change the character of its component parts. It takes place in all types and may involve but one part of a tumor, or only one or two tumors where they are present in multiple form. Sarcomas of the intestine always develop from the submucosa, and ordinarily affect the mucous membrane only after pressure, tension, and ulceration, through friction and infection by fecal masses. The causes and influences which bring about the production of sarcoma are as little known as those of carcinoma. Age cannot be proved to have any direct influence, although the disease occurs more often late in life, and there is apparently no relationship between the sexes and this disease. Symptoms are at first very vague. There may be a sense of fullness, or the feeling of the presence of a foreign body, or the first symptom may be bleeding and discharge of mucus. The protrusion of sarcomatous tumors is more frequent than in case of carcinoma, but less so than in other forms of rectal neoplasms. There is no odor peculiar to sarcoma. After ulceration has occurred and there is a production of pus, the odor changes to that of decomposing tissue, but never assumes that peculiar characteristic odor which is found in carcinoma of the rectum. If the sarcoma is low down and involves the sphincter, producing traction and pressure, the patient may suffer considerable pain. But if it is high up and of an infiltrating form the patient may go to the very door of death without any knowledge of its existence. The state of the bowels in sarcoma of the rectum varies according to the type of the tumor. There may be either constipation or diarrhea. The latter may be caused by the mobility of the growth and its location near the margin of the anus. Constipation may be caused upon mechanical grounds. Flatulence, indigestion, and loss of appetite are associated with sarcoma of the rectum as they are with all other neoplasms of this organ. Cachexia is not well marked. Reflex digestive disturbances are noted. Decrease in strength, loss of flesh, swelling of the feet and abdomen rapidly succeed one another, when the sarcoma is once well developed. Dysuria is frequently present. The lungs and pleura may become affected.

The diagnosis of this condition lies between carcinoma, and villous tumor. The tumor is less sessile than carcinoma, and less pedunculated than adenoma. It is more firm than adenoma and has a less degree of induration than carcinoma. In its attachment, its roots do not spread out, producing that general infiltration of the mucous membrane that obtains in carcinoma. Its attachment is very abrupt. To the touch it is more undulating and irregular than carcinoma, but has not the granular and dendritic divisions which one finds in villous tumor and in adenoma. The latter occurs largely in children whereas sarcoma is a disease of middle or advanced life. When it is a question between sarcoma and multiple adenoma, the multiplicity of the growths, the excessive diarrhea, together with the comparatively fair condition of the patient's health, may be mentioned upon the side of adenoma. Between sarcoma and carcinoma, the distinct odor of the latter is enough to make the decision positive. In the early stages of the disease, the fact that the mucous membrane moves easily over the growth distinguishes it almost positively from carcinoma. The final test depends upon the microscopic examination of a section from the real substance of the tumor itself. Personally the essayist was opposed to making an incision to obtain the section unless the case was operable and the patient consented to an operation if the microscopic examination showed a necessity for one.

The treatment of the disease consists in the radical removal of the growth. A ligature to pedunculated sarcomas ought never to be considered. If the growth is single and in the wall of the rectum a posterior proctotomy may be done. If it is diffuse, involving the entire circumference of the rectum, total excision of the organ is the only recourse. While there is some evidence of the value of the serum therapy in the treatment of the sarcomas elsewhere, the advocates of this method lend no encouragement by their results in the treatment of this condition in the rectum. Artificial ani may give great relief in carcinoma, but it neither relieves nor checks the progress of sarcoma.

Disease of the Sigmoid.

Dr. G. B. Evans, Dayton, Ohio, discussed the question as to whether or not the rectum was the receptacle for feces, or whether the latter is arrested, detained, and accumulated in the sigmoid flexure of the colon. The reader inclined to believe that the rectum was the receptacle. From its situation and anatomical relations, the reader was convinced that the sigmoid is oftener the seat of obscure abdominal diseases than has generally been suspected. In appendicitis there is often reflected pain over the whole abdomen, often in the left iliac region over the sigmoid. Now if this is true, the converse is also true. This point was illustrated by reference to a patient who had a distinct history of appendicitis. The condition was promptly relieved by flushing the sigmoid and colon with large quantities of hot boric solution. This treatment was advised in all cases of supposed appendicitis. It can do no harm and might do good.

Recto-colitis.

Dr. William M. Beach, Pittsburg, Pa., described recto-colitis as a condition of the rectum and colon that generates functional derangements consequent upon varying degrees of inflammation of its mucous membrane. Omitting mal'g diseases, recto colitis was considered under the following

Congestion, atrophic catarrh, hypertrophic catarrh, and ulceration. Simple congestion due to engorged blood-vessels may be ephemeral and express itself locally in the form of dysentery and tenesmus and the excretion of an enormous quantity of mucus. This condition if allowed to continue becomes chronic, developing usually the hypertrophic catarrh; epithelium is shed, valves swollen and thickened, narrowing of rectal straits, diarrhea alternating with constipation. Atrophic catarrh is usually accompanied by the constipated habit; dry hard stools, and minute anal fissures. Secretions are insufficient on account of gland impairment. Atrophic recto-colitis is rare. The ulcer is the culmination of the inflammatory process, and in the experience of the reader rarely occurs above the sigmoid flexure.

Anal Pockets.

Dr. Louis J. Krouse, Cincinnati, first entered into a very exhaustive study of the so-called anal pockets in which he gave the results of his own observations and those of other investigators. He discovered by his researches that these pockets were present in the rectums of the living to the extent of 80 per cent., but that they were entirely absent in the dead. In conclusion he said: That the so-called anal pockets may be the cause of certain diseases located in the lower outlet of the bowel, I cannot gainsay; but I believe that they are most likely the frequent predisposing cause of an irritable ulcer of the anus. If we examine the rectum in the quiescent state, when the bowels are empty, we find that the anus is closed; the anal valve and its corresponding sac are absent. But when the bowels move, the anal canal is opened and the anal valve becomes prominent, the same as would occur had an anal speculum been introduced and opened. Should a hardened fecal mass pass through the anal outlet, with a prominent pseudovalve protruding, then this valve would most likely be caught by the moving mass and possibly be torn, producing what might be termed an irritable ulcer of the anus.

The Treatment of Rectal Prolapse.

Dr. J. Rawson Pennington, of Chicago, believes that some of the most important factors in the production of rectal prolapse are to be found within the intestinal canal and considers the plica transversalis recti et sigmonideæ as one of the most, if not the most, important causative factors. He continued by saying that various procedures have been devised for the treatment of this malady, but to be successful the operation selected must be determined by the variety and specific conditions of the prolapse, otherwise it will be a failure. Of these procedures he mentioned, 1, those having for their object the production of adhesive inflammation between the coats of the intestinal walls; 2, narrowing the anal canal; 3, amputation; 4, reposition and bony fixation; 5, reposition and intra-abdominal fixation (colopexy or sigmoidopexy); 6, Thuré Brandt massage; 7, electricity; 8, ligature.

New Method for the Removal of Hemorrhoids Under Local Anesthesia.

Dr. Thomas Charles Martin, Cleveland, stated that nonmalignant anal growths could be removed painlessly without resort to general anesthesia by means of a technique which he described, provided it be performed by the trained hands of an operator who thoroughly understands the principles of infiltration anesthesia, and who, furthermore, has been sufficiently persevering to master the difficulties encountered in the application of those principles to this operation.

The following officers were elected to serve during the coming year: Dr. Thomas Charles Martin, Cleveland, president; Dr. George J. Cook, Indianapolis, vice-president; Dr. William M. Beach, Pittsburg, secretary-treasurer, and Drs. Joseph M. Mathews, Louisville, Ky., James P. Tuttle, New York City, and J. Rawson Pennington, Chicago, executive committee. Prof. Dr. Sonnenberg, Berlin, was elected to honorary membership on motion of Dr. William M. Beach, Pittsburg. The Society will meet at Saratoga, N. Y., in June, 1902.

Sun Baths for Chronic Eczema.—*Winternitz* reports the cure of a number of cases of chronic eczema with sun baths, the chemical rays arrested by red clothing.

PHILADELPHIA PATHOLOGICAL SOCIETY.

President, Dr. F. A. Packard, in the Chair.

Some Unusual Types of the Tubercle Bacillus.

Dr. M. P. Ravenel made some remarks on unusual types of the tubercle bacillus, to show the variability of this organism when grown upon different culture media. One of the growths was very greasy in appearance. In this specimen staining was very difficult. The specimen was derived from a goat suffering with the disease. If, as some contend, the pathogenicity depends upon the amount of fat contained, this special culture should be highly virulent, which did not seem the case. In other cultures of this micro-organism the cultures appeared greenish or blackish. In later instances the specimens were obtained from a child suffering with tubercular peritonitis.

Dr. A. C. Abbott spoke of the work of Dr. Trudeau, who had also referred to certain peculiarities exhibited by the tubercle bacillus. In regard to the cultures presented he thought they looked like mould. He was under the impression that the work done by the speaker not only demonstrated the variability of the tubercle bacillus, but also its different microchemic reactions. It might appear that certain cultures of this micro-organism in the lower animals were pathogenic, while others were not so. The different characteristics of this micro-organism might be due to a difference in their environment.

Variola.

Dr. W. M. Welch and Jay F. Schamberg presented specimens from a case of variola. The patient had been admitted to the Municipal Hospital on May 5, and was 28 years of age. He had never been vaccinated. When admitted the disease had advanced to the 5th day of the eruption. Death had occurred on the 12th day. The specimen of affected skin had been removed from the upper surface of the thigh and pubes. It vividly showed the papules and umbilicated vesicles present in this condition. At the autopsy the stomach had been found intensely congested, almost hemorrhagic, the veins being prominent, while the esophagus was quite pale, although a few minute ulcerated spots were found. Cultures of the heart blood were made and showed numerous streptococci.

The Increase of Connective Tissue in the Lung in Chronic Passive Congestion.

Dr. R. M. Pearce referred to the various changes which had been noted in the parenchyma and interstitial tissue. He had made certain investigations using the Weigert stain, resorcin, fuchsin, sesquichlorid of iron, and passing through alcohol, and xylol. Congo red, and eosin and carmin were also found of value. He had studied the bronchi, pleura, and septa, and found that the elastica diminished gradually until it reached the terminal bronchioles. At the vestibule the elastica was found collected in distinct nobs, or nodules, where it was thickened and stained irregularly. In some sections the tissue seemed to be made up of blood vessels and elastica. The greatest increase was in the bronchi. The increase in the blood-vessel walls was in the adventitia.

Dr. Simon Flexner thought that the results obtained demonstrated the improvements which had recently been made in micro-chemic technic. The increased rigidity of the lungs in chronic congestion might be explained from this increased amount of elastica present.

Probable Primary Intestinal Tuberculosis in an Adult with Metastases.

Dr. F. A. Packard, in detailing the clinical history, stated that the man had been a laborer, 30 years of age, who had died at the Pennsylvania Hospital May 17. He had been ill for several days with vomiting and diarrhea. The temperature had been 101, pulse 72. Nystagmus was also present. Plantar reflexes were increased, and Kernig's sign was marked. Lumbar puncture had been done, but no fluid obtained. No eruption had been present. It was thought that meningitis was present in this case. The specimens were exhibited to show that the primary focus might probably have been in the intestine.

Dr. Simon Flexner spoke of the results found at autopsy. The left lung was firmly adherent to the chest wall, and adhesions were also present between the lung and pericardium. In the lung gray tubercles were found. The bronchial lymph glands were enlarged and contained caseous material. Sections of the lung were pale, and miliary tubercles were present. There were no cavities present. The intestines were distended, and along its coats miliary tubercles were found. Tubercles were found in the pelvis. The blood vessels of the bladder were injected. The vermiform appendix was enlarged, the serous membrane injected and covered with miliary tubercles. The mesenteric glands were enlarged and caseous. The adrenals were caseous, as were the retroperitoneal glands. The kidneys showed tubercles. A very large tubercle was found at the base of the brain, and tubercles were present on the ependyme. Tubercles were found microscopically in the meninges at the base of the brain. In this locality the blood vessels showed proliferation of the endothelium.

Dr. W. M. Coplin referred to a form of intestinal tuberculosis mentioned by French writers, and called the hypertrophic form. In certain of these cases, an excision had been done, resulting in a cure. They were of a chronic nature, and the growths resembled that of cancer with ulceration and cicatrization.

Teratoma of the Testicle.

Dr. W. F. Hendrickson read a paper and presented specimens of teratoma of the testicle. The specimen had been removed from a man 25 years of age, and had involved the testicle and a portion of the cord. Two excrescences had been found externally, and adjacent to one, yellowish spots had been present. The testicle was entirely destroyed and replaced by the tumor mass composed of grayish or yellowish-white material. Microscopically the tumor showed a perivascular growth having a peculiar arrangement. About the smaller blood vessels a few giant cells were found, while other cells were of an epithelioid nature. A few giant cells were present near areas of cartilaginous tissue. In certain respects it resembled adrenal material.

Tuberculosis of the Heart.

Drs. W. S. Wadsworth and W. F. Hendrickson presented a card specimen. In this case death had been sudden. At the autopsy cavities were found in the lungs, and the pericardium contained blood-stained serum. The right auricle and ventricle seemed normal. In the left ventricle were found numerous irregular grayish or reddish nodules varying in size from a pinpoint to several millimeters. These growths were also found on the intra-ventricular septum. Microscopically they were identified as miliary tubercles. No tubercle bacilli were present in any of the nodules examined.

NINTH GERMAN CONGRESS OF GYNECOLOGY.

Held at Giessen, May 29-31.

Loehlein in his opening address remarked that atmocausis, angiotripsy and serum-therapy have not yet fulfilled anticipations, and that further experiences are necessary with each.

Carcinoma Uteri.

W. A. Freund delivered the principal address on the above subject. He was able to report only two cases permanently cured in his twenty-three years of experience: one operated on for recurrence after amputation of the portio, the other for carcinoma of the cervix with a nodule in the uterus. Both patients are entirely healthy, seventeen and twenty-three years after total extirpation. He urges that the abdominal route should not be reserved exclusively for the severest cases, as on this account, it is impossible to compare the statistics of abdominal and vaginal operations. Winter claims that the only criterion of the superiority of an operation is the number of permanent cures achieved by it, always bearing in mind the co-efficient of operability. He learned, by inquiry in the various clinics of Germany, that the average mortality after abdominal extirpation with removal of the larger portion of the parametrium and the glands, is 24.6 per cent., with a record of 41.6 per cent. recurrences during the first year. Consequently he believes that the vaginal route is the operation of the future. He makes a Schuchardt vaginoperineal incision in every case. This incision starts from the perineum, is carried across and far back of the rectum, through the entire side of the vaginal wall. It allows ample access to the parametrium. Staude incises on both sides. Olshausen reports 38 per cent. permanent recoveries—that is, the patients cured for more than five years by vaginal extirpation.

Eclampsia.

The second day was devoted to this subject. None of the various theories in regard to the etiology of eclampsia can be definitely accepted, Fehling observed. Schmoral stated that he had found a characteristic anatomic picture at the autopsies of 73 eclamptic women. Schuchardt considers the anemic and hemorrhagic necrosis of the liver highly characteristic. Dienst reported that a circulus vitiosus evidently exists between mother and fetus; the same alterations in the organs are noted in each. He removed a fragment of the liver from an animal with young. It was seized with convulsions soon after. The young were born dead, and the typical eclamptic alterations, especially the liver necrosis, were found in them likewise. Strassmann stated that the experiences at the Berlin Charité indicate that compression of the ureters has some share in the production of eclampsia. The severity of the cases seems to be decreasing of late. Large cities are most affected; social conditions and even the weather, seem to have an influence on its prevalence.

Winternitz stated that he had found the streptococcus in the uterus in 63 per cent. of all his cases of puerperal fever; the staphylococcus in 6; bonococci in 6.3, and the colon bacillus in 3.1 per cent. Leopold exhibited cultures of blastomycetes originally derived from tissue taken from the neighborhood of a carcinoma. He announced that he was able to produce sarcomata as well as carcinomata in animals inoculated, and suggests that the former may be a benign form of the latter. He exhibited a rat with multiple tumors from inoculation of his cultures. Fraenkel reported that the ovary not only produces the ovum, but has a direct influence on its insertion. Hallan also confirmed the fact of the internal secretion of the ovary, stating that he had restored menstruation in monkeys after extirpation of the ovaries, by transplanting an ovary, and that the menstruation was again arrested if the transplanted organ was removed.

Amann described a new extraperitoneal method of abdominal extirpation of the uterus. He remarked that he had observed two cases in which the glands in the posterior wall of the abdomen became carcinomatous more than five years after total vaginal extirpation. His mortality with the latter has been 4 per cent. in 175 operations. By his new method it is possible to remove extensive portions of the parametrium, expose the ureters, bladder-wall and vagina as freely as desired, and yet not open the peritoneum for more than a few minutes. He has been very much pleased with the results in fourteen cases; his first was operated on in April, 1899. The ureters are exposed through a lateral incision, detached, and the uterine or hypogastric artery ligated. The peritoneum is not opened until this is done. Then it is incised, the uterus extirpated through it, and the peritoneal cavity closed again at once by suturing the vesical peritoneum to the peritoneum of the posterior pelvic wall. The parametrium is then exposed and removed as desired, with the glands, terminating with gauze drains in the vagina and abdominal wound. This method allows easy access to the point where the uterine artery and the ureter cross, allowing the implantation of the latter in the bladder if necessary.

The next congress will be held at Wuerzburg, in 1903, with Hofmeier as president. The subjects announced for discussion are "Extra-uterine Pregnancy," and "Plastic Operations with Special Regard to Their Permanent Results."

ONTARIO MEDICAL ASSOCIATION.

The Twenty-first Annual Meeting, held at Toronto, June 19 and 20, 1901.

The president, Dr. Angus McKinnon of Guelph, *in the chair.*

Three Recent Gall-Stone Cases.

Dr. William Oldright, of Toronto, said these cases had occurred recently in his practice. They present features of interest to the profession. The first case occurred in a woman about 55 years of age. The late Dr. Little had seen the patient and had endeavored to obtain purgation, without effect. Powerful cathartics were unavailing. About nine months previously she had a similar attack, but Dr. Oldright had heard nothing about it until this attack. The symptoms were somewhat elevated temperature, about 100 to 101, constant vomiting, obstruction, and intense pain. He supplemented Dr. Little's catharsis, but without any effect. On examination, he could map out a distinct tumor, and told her that she had a distended gall-bladder; advised her to go into the hospital, which she did that night. She was operated on in the afternoon, and removed some gall-stones, and endeavored to establish patency of the duct. He could feel no stones left behind, but there was some stenosis of the duct. There was a great deal of inflammatory action in this case. The gall-bladder was stitched into the abdominal wall and drainage established in the usual method; bile flowed freely. Patient made a good recovery. The second case was one in consultation with Dr. McLean, of Woodbridge. She was 65 years old. The prognosis was certainly death without operation. At the operation he could not locate the gall-bladder. He came to the conclusion that it was not a case for further interference. Within twenty-four hours she succumbed to the shock and probably to some hemorrhage. There was no doubt after passing the finger in, that it was malignant. If this woman had been operated on some years before, Dr. Oldright thought that malignancy would not have occurred, and her life would have been saved. The third case occurred in a woman 40 years of age. Here was a case in which there had been gall-stone symptoms, obstruction, for about eighteen months. She consented to an operation. The obstruction was in the cystic duct. He opened the gall-bladder and took out the stones. The operation occupied about forty minutes. The patient made an uneventful recovery, and left the hospital thirteen days after the operation.

Excision of Upper Jaw for Sarcoma.

Dr. Herbert A. Bruce, of Toronto, presented this paper, whilst Dr. G. Silverthorne exhibited the specimen. Dr. Bruce also presented the patient, a woman, 34 years of age, from whom he had removed the upper jaw for sarcoma. During the last week of January of this year she felt for the first time a slight swelling over the alveolus of the left jaw, which she thought to be a gum boil. She consulted Dr. Bowles at the end of March, and Dr. Bruce saw her about the middle of April, that is, less than three months after the first symptoms. He operated upon her on April 29, exactly three months after the first symptom. On examination, he found a very hard swelling just behind the second bicuspid tooth and extending backwards to the full extent of the jaw. Internally, it had not extended to the middle line, but bulged externally to the extent of half an inch beyond the line of the teeth. It extended backwards towards the antrum, but the latter did not seem to be implicated externally. The growth in the roof of the mouth was covered by a mucous membrane. On looking into the nose, a polypoid mass was seen; and the patient had difficulty in breathing through the left nostril. The cheek on the affected side was slightly more prominent, and it moved freely over the growth. A small portion of the growth was removed under cocain, and Dr. Silverthorne reported to Dr. Bruce that it was sarcoma. The patient left the hospital on May 18 and made an uninterrupted recovery.

Dr. Silverthorne presented the specimen to the members of the Association. It was the size of a large-sized orange, containing spindle cells with a cartilaginous basis.

Ectopic Gestation.

Dr. R. W. Garratt, of Kingston, said the subject is one of vital importance to every practitioner, for at any time he might be called upon to differentiate the condition from others from which it might be confounded. The responsibility of a life was in his hands and demanded accurate diagnosis, medical acumen and judgment and ability to conduct the case to a favorable termination. He entered at considerable length as to the causation and earlier changes consequent upon ectopic gestation, and stated, that every physician is expected to make a correct diagnosis of tubal pregnancy on the occurrence of rupture; and in a fairly large proportion of cases, to make a diagnosis before the occurrence of rupture.

Theoretically, the arrest of a fructified ovum may occur first in the ovary; second, in the abdominal cavity, between the ovary and tube; third, within the tube, and fourth, between the tube and the uterus. He would direct the attention of his audience to but one kind only—arrest within the tube, or tubal pregnancy, as all other varieties are but mere developments of this kind, owing to secondary invasion of the Fallopian tube.

Dr. J. F. W. Ross thought that we ought to be able to diagnose these cases before rupture had taken place. He referred to the pain that is indefinite, not severe; not acute, but a feeling as if something were wrong. He referred to several cases recently seen in practice.

Dr. Powell referred to a case where Dr. Ross had diagnosed these conditions before rupture had occurred.

President's Address.

Dr. Angus McKinnon considered that it was a great honor to be elected president of this, the largest and most influential medical association in the Dominion of Canada. Having referred to the success of the meeting so far, he proceeded to contrast the state of medicine at the beginning of the last century with that of the present, and compared the last advantages we to-day possess over those of one hundred years ago. He deplored the growth in the employment of new, proprietary remedies, and thought that harm was being done to the medical profession by manufacturing firms making up pills for neuralgia, for malaria, etc. He considered that the literature and drugs sent out to medical men by these manufacturing houses had become an intolerable nuisance. The electric-belt man, the "Christian scientist," the advertising cancer-curer, the osteopath, and many other such like takes, which hang on to the skirts of medicine he scored most unmercifully, and regretted that the public press, both secular and religious, opened their columns freely to these fulsome, untruthful, and sometimes immoral advertisements—because they pay well. There was great danger to the public in permitting "Christian scientists," the "pray-for-hire-healers," and the "Dowieites," impudently undertaking to cure infectious diseases such as diphtheria, scarlet fever, and smallpox, diseases which they are unable to recognize; and we think that we have come to a point where toleration and forbearance become criminal. The 2500 medical men in Ontario should have influence enough to obtain from the legislature an amendment to the medical act that will put an end to this trifling with human life. He directed attention to the delay that occurs in securing admission to the asylums for people, the subject of acute mania, and thought that it was high time the necessary steps in this department in the practice of medicine should be simplified.

Vaccinal Protection Against Smallpox.

Dr. P. H. Bryce, of Toronto, the Secretary of the Provincial Board of Health, presented this paper. In the introduction he expressed the belief that, although the practice of vaccination against smallpox has existed for a century, there never was a time since it was formally accepted by the profession, when there was so much expressed skepticism on the part of the laity with regard to its protective qualities, and never a time when the profession has been so indifferent as to impressing the necessity of its proper performance upon the public. In Ontario, between 1898 and 1899, there were but 22 recorded deaths from the disease. He made special reference to the art of vaccination and the quality of the lymph, and thought five separate insertions should be made in each case. The quality of the lymph was very important. He thought that a medical man going out from college did not receive sufficient practical instruction on this most important subject.

Dr. I. H. Cameron discussed Dr. Bryce's paper and stated, as a matter of fact, he had no hesitation whatever in seeing a case of smallpox himself, nor would he object to any member of his family seeing it, if he knew that they had sufficient protection in vaccination. He warned the profession against laxity in dealing with this most important subject.

Dr. Harrison, of Selkirk, stated that he had had considerable experience with smallpox, and on account of that experience he entered a vigorous protest against the prevailing carelessness in insisting on vaccination and re-vaccination in the laity as well as the profession.

Empyema.

Dr. **Ferguson**, of London, said that the treatment of this condition was essentially surgical, and that the medical aspects of the disease were limited to a consideration of its pathogenesis and prophylaxis. He considered that the conditions of non-purulent or primary effusion, indispensable to an understanding of the pathogenesis of empyema. He gave a description of the pleura and discussed the bacteriological aspect of purulent pleurisy, which he divided into four classes; 1, those due to pneumococci; 2, those due to streptococci (and staphylococci); 3, those to the bacilli of tuberculosis; and 4, those caused by saprogenic organisms. In nine cases, extending over eleven years in his practice, three were diagnosed tubercular, three meta-pneumonic, two due to the streptococci, and one undetermined. The prognosis varies with the microorganism present, the pneumococci being the most benign. It is the only variety of purulent empyemia that may possibly yield to treatment by mere aspiration, especially in children. Tubercular empyema is usually mixed infection. The prognosis here will depend upon the general condition of the patient, and the character of the mixed infection. We, therefore, see the importance of a bacteriological examination. As in any other debilitating disease, supporting and tonic treatment is essential. With the advent of pus, surgical means must be adopted.

Dr. J. L. **Turnbull**, of Goderich, said that when the presence of pus is determined it should be evacuated at once, as there is always the danger of the abscess bursting into or through the chest wall, or even through the diaphragm, and producing peritonitis. Aspiration need not be described; remember not to remove the fluid too rapidly. In this, as in an ordinary abscess, it is not necessary to open at the most dependent point. The preferable way, and the one which Dr. Turnbull always uses when a diagnosis of pus is made, is to remove a portion of a rib; an inch and a half may be cut out, preferably with the saw, under strict antiseptic precaution. Dr. Turnbull advises washing out every day when pus is offensive; and drainage tube gradually shortened until it can be removed altogether. Where a cavity and sinus remains after this operation, the sinus may become closed and a second empyema established. This requires an Estlander's operation, and one of the best ways is to carefully locate size and boundaries of cavity with a probe, and after dissecting up a flap of skin to be sure to remove enough bone. The hard fibrous tissue beneath the ribs, which is always present in quantity there, must be thoroughly removed. Dr. Turnbull advises mopping out with pure carbolic acid, then with alcohol, to prevent poisoning, and then with sterilized water, the part being carefully dried. He puts a drainage tube in the most dependent part.

Open Treatment of Disease.

Dr. George H. **Carveth**, of Toronto, described his method of treating different forms of disease: 1, in the house with wide-open windows; 2, in beds on the veranda; 3, in beds under tents on the lawn. At first he experienced some difficulty in getting his patients to consent to be treated in this manner, but after they had become habituated to life in the open air, they returned in-doors reluctantly. Some of the cases that he has treated in this way are iritis, cases of fracture, cases of the radical cure of hernia, rheumatoid arthritis, tubercular disease of the spine, typhoid fever, and a case of hysterectomy. His address was illustrated by lantern slide projections on the canvass, which proved very interesting to the members of the association.

Gastric Ulcer.

Dr. R. D. **Rudolf**, of Toronto, gave a short historical sketch of the chief literature of the subject, and said during the last 30 years only one important symptom had been added to those mentioned by previous writers: the very common occurrence of hyperchlorhydria. Avoiding the consideration of the well-known points on the subject, he propounded five questions in connection with gastric ulcer which seemed to him to specially merit discussion: 1, is there any relation between gastric ulcer and cancer? Trosseau believed that an actual antagonism existed between the two conditions, while Bebert considered that 9 per cent. of all gastric cancers so arose, and Rosenheim states that 5 to 6 per cent. of all gastric ulcers became carcinomatous. Clinically, the speaker had never seen a case of simple ulcer end in cancer, nor had he seen a case of cancer preceded by ulcer, although such cases undoubtedly occasionally occurred.

Dr. **Henry Howitt**, of Guelph, first took up the procedures for dealing with the ulcer or its results, in which perforation is not a factor. In all the operative procedures it was essential to prevent infection of the wound; stomach should be thoroughly washed with aseptic water, by means of siphon tube, immediately before the anesthetic is administered. It is not necessary to make the abdominal incision extensive, the length of the incision would depend upon the amount of contraction, and it is sutured in such a manner that when closed the line of union is at right angles to the original incision. This gives excellent results when properly done. Adhesions render this ideal operation impracticable. The first successful operation in Canada was performed in Toronto, in 1894, by Dr. Atherton. Up to last September in the neighborhood of 300 operations were reported, with a mortality of a little over 45 per cent. Dr. Howitt then referred to cases in his own practice.

With regard to the treatment, Dr. Howitt said that as soon as we are satisfied that perforation has taken place, referring to acute cases, he believes it is good practice to give morphia hypodermically; and it further lessens the amount of the anesthetic in the opinion of many. Success largely depends on the shortness of time before operation; delay is dangerous. It is Dr. Howitt's practice to eviscerate the bowels; one or more small incisions in the prominent coils soon overcomes the distention, and each one is closed before another is made. Attention is now turned to the stomach and the part brought into the wound. The ulcer is incised and opening closed with two or three layers of sutures. When the trouble is in the posterior wall it may be impossible to excise it, in which case, it can be generally inverted and closed by layers of sutures. The abdominal cavity should be thoroughly flushed with a stream of saline solution. When drainage is necessary, the tubes or gauze should not be introduced through a large wound. The object should be to have primary union to take place in the incision.

Resolution of regret for non-payment of the annual $2.00 fee of the Ontario Medical Council was introduced by Dr. Ferguson, of London, seconded by Dr. Gibson, of Belleville, that some members of the profession in the province had refused payment of this annual fee.

This Association regards the imposition of this fee as most reasonable, payment of which should meet with a cheerful response on the part of every member of the profession. This was carried unanimously amid much applause, and without a dissenting voice.

Dr. Wishart, Toronto, chairman of the special committee to draw up a resolution on vaccination, presented the following:

Resolved, That the Ontario Medical Association desires hereby to reassert the opinion of the medical profession of this province.

1. That the principles of Jennerian vaccination against smallpox, which have been now attested by the experience of more than a century, are scientifically correct.

2. That in order to carry out the protection through vaccination against smallpox it is necessary that the lymph used in the operation be of normal quality, and that this can be shown only by a proper amount of systemic reaction to the vaccine, as determined by the character of the vesicles, and that the absence of a normal reaction, as shown by the presence of vesicles, is no positive evidence of the immunity of the person either against vaccinia or smallpox.

3. That this Association emphasizes the urgent necessity that the scarification of the skin be sufficiently extensive to secure such reaction, and to this end recommend that from three to five insertions each of a quarter of an inch square be made in each vaccination.

This was carried.

Medical Defense Union.

On motion of Dr. J. F. W. Ross, seconded by Dr. A. Primrose, a committee was appointed to inquire into this matter, to report at the next meeting of the Association in 1902.

The following officers were elected: President, Dr. N. A. Powell, Toronto; first vice-president, Dr. R. Ferguson, London; second vice-president, Dr. R. W. Garrett, Kingston; third vice-president, L. C. Prevost, Ottawa; fourth vice-president, R. L. Turnbull, Goderich; general secretary, Harold C. Parson, Toronto; assistant, Dr. George Elliott, Toronto; treasurer, Dr. A. R. Gordon, Toronto.

Miscellany.

Military Precautions Against Yellow Fever in Cuba.

The military orders recently issued for the protection of the garrisons in Cuba from yellow fever differ widely from those in force heretofore. Formerly when a case of this disease was discovered in a command the patient was immediately isolated or sent to a yellow fever hospital; the barrack-room from which he was taken was temporarily vacated for a thorough cleansing and disinfection and quarantine was instituted against the locality from which the infection was supposed to have been imported. New cases occurring within five days were regarded as due, like the first, to imported infection, and cleansing and disinfection were again resorted to; but new cases occurring after the lapse of five days led to the opinion that the barracks had become infected and that a dangerous local outbreak of the disease would follow unless checked by disinfection and immediate removal to a new camp site, with a second change of camp site if needful to shake off the infection.

Now, however, the measures enjoined by the military authorities have in view the prevention of the dissemination of the yellow fever infection by mosquitoes. Well men are to be protected from the bites of infected mosquitoes and patients suffering from the fever are to be protected that uninfected mosquitoes may not become infected. Disinfection of rooms, clothing, bedding, etc., is declared unnecessary except in so far as it aims to destroy infected insects that may be present. The following circular was issued April 27, 1901, from headquarters, Department of Cuba, General Leonard Wood, commanding. General Orders No. 6, mentioned in the circular, directed the enforcement of the use of mosquito bars and the destruction of the larvæ of the mosquito by petroleum in all collections of standing water in the vicinity of military stations:

Upon the recommendation of the Chief Surgeon of the Department, the following instructions are published and will be strictly enforced at all military posts in this Department: The recent experiments made in Havana by the Medical Department of the Army having proved that yellow fever, like malarial fever, is conveyed chiefly, and probably exclusively, by the bite of infected mosquitoes, important changes in the measures used for the prevention and treatment of this disease have become necessary. 1. In order to prevent the breeding of mosquitoes and protect officers and men against their bites, the provisions of General Orders No. 6, Department of Cuba, Dec. 21, 1900, shall be carefully carried out, especially during the summer and fall. 2. So far as yellow fever is concerned, infection of a room or building simply means that it contains infected mosquitoes—that is, mosquitoes which have fed on yellow fever patients Disinfection, therefore, means the employment of measures aimed at the destruction of these mosquitoes. The most effective of these measures is fumigation, either with sulphur, formaldehyde or insect powder. The fumes of sulphur are the quickest and most effective insecticide, but are otherwise objectionable. Formaldehyde gas is quite effective if the infected rooms are kept closed and sealed for two or three hours. The smoke of insect powder has also been proved very useful; it readily stupefies mosquitoes, which drop to the floor and can then be easily destroyed. The washing of walls, ceilings and furniture with disinfectants is unnecessary. 3. At it has been demonstrated that yellow fever cannot be conveyed by fomites, such as bedding, clothing, effects and baggage, they need not be subjected to any special disinfection. Care should be taken, however, not to remove them from the infected rooms until after formaldehyde fumigation, so that they may not harbor infected mosquitoes. Medical officers taking care of yellow fever patients need not be isolated; they can attend other patients and associate with non-immunes with perfect safety to the garrison. Nurses and attendants taking care of yellow fever patients shall remain isolated, so as to avoid any possible danger of their conveying mosquitoes from patients to non-immunes. 4. The infection of mosquitoes is most likely to occur during the first two or three days of the disease. Ambulant cases—that is, patients not ill enough to take to their beds and remaining unsuspected and unprotected, are probably those most responsible for the spread of the disease. It is, therefore, essential that all fever cases should be at once isolated and so protected that no mosquitoes can possibly get access to them until the nature of the fever is positively determined. Each post shall have a "reception ward" for the admission of all fever cases and an "isolation ward" for the treatment of cases which prove to be yellow fever. Each ward shall be made mosquito-proof by wire netting over doors and windows, a ceiling of wire netting at a height of seven feet above the floor, and mosquito bars over the beds. There should be no place in it where mosquitoes can seek refuge, not readily accessible to the nurse. Both wards can be in the same building, provided they are separated by a mosquito-tight partition. 5. All persons coming from an infected locality to a post shall be kept under careful observation until the completion of five days from the time of possible infection, either in a special detention camp or in their own quarters; in either case, their temperature should be taken twice a day, during this period of observation, so that those who develop yellow fever may be placed under treatment at the very inception of the disease. 6. Malarial fever, like yellow fever, is communicated by mosquito bites, and, therefore, is just as much of an infectious disease and requires the same measures of protection against mosquitoes. On the assumption that mosquitoes remain in the vicinity of their breeding places, or never travel far, the prevalence of malarial fever at a post would indicate want of proper care and diligence on the part of the Surgeon and Commanding Officer in complying with General Orders No. 6, Department of Cuba, 1900. 7. Surgeons are again reminded of the absolute necessity, in all fever cases, to keep, from the very beginning, a complete chart of pulse and temperature, since such a chart is their best guide to a correct diagnosis and the proper treatment.

High Praise for Senn's Book.

Dr. Juan Redondo, chief surgeon of the Spanish fleet in the Spanish-American War, publishes a long and most flattering review of Dr. Senn's book, "The Medico-Surgical Aspects of the Spanish-American War," in the *Diario de la Marina*, of Madrid, May 6. The following extracts show the high esteem in which the book is held by the reviewer:

"It is very possible that the general sanitary inspections of the war and navy departments of the United States, in their reports and annual statistics, have given a minutely detailed account of the medical happenings of the campaign. But if such works exist, I for my part do not know them, and the truth is that the book of Dr. Nicholas Senn is the first work of this nature truly serious which I have received. * * * He has had opportunities to write a book which, although referring only to the military operations of the Antilles, embraces the matter completely in its military and naval aspect, whose merits I can judge perhaps better than anybody else on account of my being the only Spanish doctor, or may be, of any other nationality, who after fighting in a vessel—and I employ the word in the true sense in which a naval doctor can and should employ it—fought afterwards on land during three months as doctor of the battalion formed with what remained of the crews of an unfortunate fleet. This book which I propose to make known among the medical men of our country's army and navy, if as I hope the author will allow me to translate into Spanish, is edited with an abundance of details and the richness of engravings which Americans use sometimes in this class of work, and artistically considered is a marvel. But high as its value is on this account, its real merit is not there, but in the abundance of matter which it studies, in the multitude of observed facts, in the experiences that can be derived from it, in the highly scientific principles of its author and in the high and liberal spirit with which all its matters are treated. * * * He does not allow himself to be carried away by unreflecting enthusiasm that breed so many errors with many American writers. As a correct and elegant writer he must have taken special pains not to wound our patriotic sentiments when in a book of nearly 400 pages I only find half a dozen words which could pain us, and which if a second edition were made it would be easy for him to change by others which without altering the sense might lessen the cruelty of the expression. This can be of easy accomplishment, since more than once he calls the conduct of our admirals heroic, praises the devotion of our sailors and soldiers to their chiefs, judges in a very flattering manner the chivalry of the military doctors with whom he became acquainted in Santiago, and praises beyond measure a Spanish military surgeon who in Porto Rico nobly attended an American volunteer who, far from his people, was a victim of sunstroke and found completely abandoned in the field. I congratulate Dr. Senn on having written his interesting book, but may not finish without giving him my opinion, contrary to his, when he sustains a point with which I can not in any way accept. I have nothing to say of the motives his nation has had the first four times she has appealed to the supreme argument of arms, but must protest with all the energy of my soul against his branding as strangers in America those who knew how to give an impulse and bring forth to the realities of life the immense continent which was formerly lost in the farthest solitudes of a tempestuous and unknown ocean, and against his saying that the United States when obliging us to go to war with them were exclusively obeying a sentiment of humanity."

Association News.

Section Papers—Non-Members

To the Editor:—I have received a number of communications from members of the Association in which complaint was made that they could not get an opportunity to read their papers at the recent meeting at St. Paul. We have every reason to believe that the meeting to be held at Saratoga from June 10 to 13, 1902, will be one of the largest in the history of the Association, and that the Sections will at a very early date be filled by members applying for permission to read papers. It is a fact well known that every year certain men read papers before several of the Sections. This is not their fault, since they are invited to do so by different Section officers, but it should be understood that if a man has accepted an invitation in one Section he should not accept an invitation to occupy any time in another Section, and as an act of justice to the larger number I would earnestly call the attention of the chairman of each Section to this matter. I would also ask attention to the necessity of being careful not to permit any names to appear upon the program of the meeting of those who are not members of the AMERICAN MEDICAL ASSOCIATION. If a careful scrutiny is made of the list as the names come before the chairman of each Section, and if in case of doubt in regard to the standing of any applicant, information should be requested from the regular organization of the county in which he resides, the facts could be readily obtained and much embarrassment avoided.

Sincerely yours,
JOHN A. WYETH, President.

Portrait of Dr. N. S. Davis.

Through the courtesy of Mr. Charles S. Raddin, chairman of the Museum and Library Committee, the portrait of Dr. N. S. Davis, painted by Zan D. Klopper, of Chicago, has been loaned to and placed in the Chicago Academy of Sciences, and is labeled as follows: "Portrait of Dr. N. S. Davis, President American Medical Association, 1864-65. Loaned by the Association." Offers to furnish the portraits of other ex-presidents of the Association have been received.

J. R. PENNINGTON,
Chairman of Committee on Portraits of Ex-Presidents.

Minutes of the Sections.

Section on Hygiene and Sanitary Science.

TUESDAY, JUNE 4—AFTERNOON SESSION.

A paper on "State Supervision of Marriage; Its Feasibility, Scope, Justification, Possibilities," by Dr. W. H. Heath, of Buffalo, N. Y., was read by Acting Secretary Dr. J. Neely, of Chicago. It was discussed by Dr. Egbert, of Philadelphia; Dr. Liston H. Montgomery, of Chicago; Dr. Tuckerman, of Iowa; Dr. Ferd C. Valentine, of New York City.

WEDNESDAY, JUNE 5.

"Pulmonary Fearlessness," was read by Dr. William T. English, of Pittsburg.

"Limitation of Venereal Diseases," was read by Dr. Denslow Lewis, of Chicago, and discussed by Dr. Ferd C. Valentine, of New York; Dr. Howard A. Kelly, of Baltimore; Dr. Toper; Dr. Reed, of Wyoming; Dr. Tuckerman; Dr. Egbert; Dr. Fuller, of Iowa; Dr. Shrader; Dr. Montgomery, of Chicago, and closed by Dr. Lewis.

THURSDAY, JUNE 6—MORNING SESSION.

"Tuberculosis in the Middle States, and Its Curability," by Dr. John A. Robison, Chicago, was read by Dr. Montgomery, of Chicago.

"Tuberculosis Sanitaria," by Dr. C. P. Ambler, of Asheville, N. C., was read by Acting Secretary Dr. Neely, of Chicago.

"Tuberculosis of Animals in Some of Its Relations to Human Tuberculosis," was read by Dr. D. E. Salmon, Washington, D. C.

"The Experience of Syracuse, N. Y., with the Compulsory Tuberculin Test of all Dairies Furnishing Milk to the City," was read by Dr. B. S. Moore, Syracuse, N. Y.

"The Climatology of Arizona with Reference to the Treatment of Pulmonary Tuberculosis," was read by Dr. R. W. Craig, Phoenix, Ariz.

"Tuberculosis in Its Relation to the Welfare of the People of the United States in General and Colorado in Particular," by Dr. Wm. M. Danner, of Denver, Colo., was read by Dr. H. M. Bracken, of Minneapolis, Secretary of the Board of Health.

The above papers were discussed by Dr. Houghton, of Detroit, Mich.; Dr. Salmon, of Washington, D. C.; Dr. M. H. Reynolds, St. Anthony Park, Minn.; Dr. Norman Bridge, Los Angeles, Cal.; Dr. H. M. Bracken, Minneapolis, Minn.; Dr. B. S. Moore, Syracuse, N. Y.

Section on Stomatology.

TUESDAY, JUNE 4—3 P. M.

The Section was called to order by the Chairman, R. R. Andrews, Cambridge, Mass., at 3 p. m., in the Ladies' Ordinary of the Hotel Ryan.

Committee on Transactions reported that 1000 copies had been printer at a cost of $159.51, and distributed among dental and medical colleges.

The Committee on Education reported progress.

The president then delivered his annual address.

The regular program was then taken up with a Symposium on State Boards of Dental Examiners in their Relation to the Profession and the Colleges. The first paper was by Wm. Carr, New York City, on the subject of "Methods of Appointment: 1, by State Universities, New York; 2, by State Boards of State Officials ex-officio, Nebraska; 3, by Governors on Recommendation of the Profession." The paper was read by the secretary. Two papers were read by the secretary, for Geo. L. Parmele, Hartford, Conn., and V. E. Turner, Raleigh, N. C., on the subject of "Revenue for Conducting the Work of the Boards of Examiners: 1, by Taxation of the People; 2, by Fees from Examination of Candidates; 3, by Taxation of the Profession." The next paper was by Charles Chittenden, Madison, Wis., "The Dental College Standard: 1, Is it What it should be? 2, If Not, What Improvements should be made? 3, How May the Requirements be Improved?" The last paper on the program was on the subject of "Licensing: 1, by Examination; 2, by Diploma;" by J. A. Libby, Pittsburg, Pa. The papers were discussed by Drs. Talbot, Latham, Nones, Andrews, Dennis, Peck, Keoms and Chittenden.

On motion of Dr. Peck, the Section adjourned until 2 p. m., June 5.

WEDNESDAY, JUNE 5—2 P. M.

Section was called to order by the Chairman.

The following papers were read in a Symposium on Degeneracy of the Pulp: "Preliminary Work," by Eugene S. Talbot, Chicago; "Literature of the Pulp," by Vida A. Latham, Rogers Park, Ill.; "Cutting, Staining, and Mounting," by Martha Anderson, Moline, Ill. The symposium was discussed by Drs. R. R. Andrews, G. V. I. Brown, E. S. Talbot, and Vida A. Latham.

Dr. Alice Steeves, for the Nominating Committee, reported the following nominations for officers of the Section for the ensuing year: Chairman, A. H. Peck, Chicago; Secretary, Eugene S. Talbot, Chicago. Members House of Delegates, G. V. I. Brown, Milwaukee; and A. E. Baldwin, Chicago.

A paper on "Infectious Diseases" was read by Dr. Alice Steeves, Chicago, and was discussed by Drs. Latham, Bush, Carpenter, Baldwin, Kiernan, Brown, Andrews and Steeves.

"Periods of Stress and their Dental Marks" was the subject of a paper by Dr. Jas. G. Kiernan, Chicago. The paper was discussed by Drs. Talbot, Latham, Brown and Kiernan.

Dr. G. V. I. Brown, Milwaukee, read a paper on "Surgical Treatment of Cleft Palate." It was discussed by Drs. Kiernan, Wylis, Carpenter and Brown.

THURSDAY, JUNE 6.

Section was called to order at 2 p. m., by the chairman.

The first paper was by M. H. Fletcher, Cincinnati, on "The Tongue as a Breeding Place for Bacteria." The paper was read by the secretary, and was discussed by Drs. Talbot, Brown and Baldwin.

"Military Dental Practice: its Modifications and Limitations." by Henry D. Hatch, New York City, and read by Dr. Baldwin. The subject was discussed in a paper by Dr. John S. Marshall, of Washington, read by the secretary. The paper was also discussed by Drs. Brown, Baldwin, Lyon, Orton, Chittenden Weirick, Latham, Talbot and Andrews.

Dr. G. V. I. Brown, Milwaukee, offered the following resolution, which on motion was unanimously adopted:

Resolved, That the secretary be instructed to write to Dr. John S. Marshall conveying to him the congratulations of this body upon his appointment, upon his paper and upon the excellent manner in which the committee has laid out the preliminary work it has undertaken, and assure him of our earnest support in that work.

"Simple Gingivitis" was the subject of a paper by Dr. Geo. T. Carpenter, of Chicago, and was discussed by Drs. Brown, Talbot, Latham, Baldwin, Carpenter and Andrews.

Adjourned *sine dic.*

Section on Nervous and Mental Diseases.

Tuesday, June 4—Afternoon Session.

The meeting was called to order by Dr. H. A. Tomlinson, of St. Peter, Minn., Chairman.

Address of Chairman.

"Etiology of Paretic Dementia," by Dr. Frank P. Norbury, of Jacksonville, Ill. Discussion by Drs. Harold N. Moyer, of Chicago; E. G. Carpenter, of Columbus; Richard Dewey, of Wauwatosa, Wis.; Sidney Kuh, of Chicago; E. E. Mayer, of Pittsburg, and H. A. Tomlinson, and Frank P. Norbury.

"Symptomatology of Cerebral Hemorrhage" was read by Dr. F. Savary Pearce, of Philadelphia. Discussion by Drs. Hugh T. Patrick, of Chicago; F. W. Langdon, of Cincinnati; John Punton, of Kansas City; W. A. Jones, of Minneapolis; E. G. Carpenter, of Ohio, and F. Savary Pearce.

"What Can Be Done for the Epileptic in a Medical Way?" was read by Dr. R. H. Porter, of Chicago. Discussed by Drs. Lambert Ott, of Philadelphia; John Punton, of Kansas City; Hugh T. Patrick, of Chicago; C. Eugene Riggs, of St. Paul; Dr. Sexton, of Kansas City; F. Savary Pearce, of Philadelphia; E. E. Mayer, of Pittsburg; Warner, and Drew, of Massachusetts, and R. N. Porter, in closing.

Wednesday, June 5—Afternoon Session.

"The Treatment of the Acute Psychoses in Private Practice" was read by Dr. C. Eugene Riggs, of St. Paul, Minn. Discussion by Drs. Richard Dewey, of Wisconsin; John Punton, of Kansas City; Frank P. Norbury, of Jacksonville, Ill.; C. A. Drew, of Massachusetts; O. Everts, of Cincinnati; J. G. Biller, of Cherokee, Iowa; F. W. Langdon, of Cincinnati; M. B. Sexton, of Kansas City; F. Savary Pearce, of Philadelphia; Harold N. Moyer, of Chicago; H. A. Tomlinson, of Minnesota; James G. Kiernan, of Chicago, and E. Riggs, in closing.

A Symposium on Syphilis of the Brain consisted of "Nervous Manifestations," by Dr. Hugh T. Patrick, of Chicago; "The Psychosis in Cerebral Syphilis," by Dr. Richard Dewey, of Wauwatosa, Wis.; and "Syphilis of the Nervous System; Its General Pathology, with Remarks on Treatment," by Dr. F. W. Langdon, of Cincinnati. Discussion by Drs. C. B. Burr, of Flint, Mich.; H. D. Valin, of St. Peter, Minn.; E. G. Carpenter, of Columbus; John Punton, of Kansas City; E. E. Mayer, of Pittsburg; Sydney Kuh, of Chicago; Frank P. Norbury, of Illinois; and closed by Drs. Dewey and Langdon.

"Suggestions for Lessening the Frequency of Relapse After Treatment for Morphinism," was read by A. J. Pressey, of Cleveland, and discussed by Drs. T. D. Crothers, of Hartford, Conn.; John Punton, of Kansas City; Frank P. Norbury, of Illinois; Lambert Ott, of Philadelphia; and A. J. Pressey, in closing.

"Injuries, Feigned and Real, with Their Differentiation and Medicolegal Aspect," was read by Lambert Ott, of Philadelphia, and discussed by Drs. Harold N. Moyer, of Chicago; Leo M. Crafts, of Minneapolis; Richard Dewey, of Wisconsin; J. G. *Biller*, of Iowa; Herman Gasser, of Platteville, Wis.; F. Savary Pearce, of Philadelphia; Dr. Leaming, of Chicago, and closed by Dr. Ott.

On motion of Dr. Frank P. Norbury, a message of sympathy was sent to Dr. J. T. Eskridge, of Denver, Colo., who was detained at home by illness.

Thursday, June 6—Morning Session.

"Treatment of Neurasthenia" was read by J. G. Biller, of Iowa. and discussed by Drs. Hugh T. Patrick, of Chicago; McBride, of California; John Punton, of Kansas City; C. Eugene Riggs, of St. Paul; Harold N. Moyer, of Chicago; F. Savary Pearce, of Philadelphia; H. A. Tomlinson, and J. G. Biller.

"The Psychoses of Chorea" was read by Dr. Harold N. Moyer, of Chicago, and discussed by Drs. Riggs, of St. Paul; E. G. Carpenter, of Ohio; Edward E. Mayer, of Pittsburg; and John Punton, of Kansas City.

"Three Cases of Paralysis of the Serratus Magnus and the Trapezius: Alar Scapula," was read by Dr. Augustus A. Eshner, of Philadelphia, and discussed by Dr. Pearce, of Philadelphia.

"Mirror Writing and Inverted Vision" was read by Dr. Albert B. Hale and Sydney Kuh, of Chicago, and discussed by Drs. Sweeney, of St. Paul; Richard Dewey, of Wisconsin; Herman Gasser, of Wisconsin; and S. Kuh, in closing.

Thursday, June 6—Afternoon Session.

"Ten Cases of Acute Infectious Multiple Neuritis" was read by Dr. W. A. Jones, of Minneapolis, and discussed by Drs. Patrick, of Chicago; H. N. Moyer, of Chicago; and W. A. Jones, in closing.

"Fear as an Element of Nervous Diseases, and Its Treatment," was read by Dr. John Punton, of Kansas City. "A Case of Localized Amnesia, with Remarks Thereon," was read by Dr. Edward E. Mayer, of Pittsburg. Discussion by Drs. T. D. Crothers, of Hartford; McBride, of California; Riggs, of St. Paul; Moyer, of Chicago; Jones, of Minneapolis; Pearce, of Philadelphia; and Mayer.

"Dementia Following Inebriety" was read by T. D. Crothers, of Hartford, and discussed by Drs. C. A. Drew, of Massachusetts, and T. D. Crothers, closing the discussion.

"The Importance of Heredity as a Cause of Insanity" was read by Dr. Arthur McGugan, of Michigan, and discussed by Drs. Mayer, of Pittsburg; Dewey, of Wisconsin; Crothers, of Connecticut; Drew, of Massachusetts: Drayton, of New York: *Joseph F. Robinson*, of Nevada, Mo.; Pearce, of Philadelphia: Tomlinson, and McGugan.

The Chairman announced that under the provisions of the reorganization scheme it becomes necessary for each Section to elect two delegates. This must be done at this session, as the House of Delegates will convene at the beginning of the next meeting of the Association.

Dr. Hugh T. Patrick, of Chicago, said it was designed that the retiring Chairman should be one of the two delegates. Moved and carried that the Chairman be selected as a Delegate.

Dr. W. A. Jones, of Minneapolis, moved that the selection of the second Delegate be left to the Nominating Committee. Carried.

Report of the Nominating Committee: Dr. Patrick, the Chairman of the Nominating Committee, reported that Dr. J. T. Eskridge, of Denver, had been selected as Chairman for the next year. As Dr. Eskridge is in poor health, and may not be able to attend the meeting on that account, Dr. Richard Dewey, of Wauwatosa, Wis., had been selected as Alternate. Secretary, Dr. F. Savary Pearce, of Philadelphia.

It was moved and seconded that the report of the Nominating Committee be accepted. Carried.

Dr. Harold N. Moyer, of Chicago, was selected as the second member of the House of Delegates, to serve for two years.

"Persistent Brachial Neuralgia from Hypodermic Injection—Incipient Amyotrophic Lateral Sclerosis, with Recovery," was read by Dr. Leo M. Crafts, of Minneapolis.

Section on Cutaneous Medicine and Surgery.

First Day, June 4.

Address of Chairman, W. L. Baum, on "Ancient and Modern Conceptions of Syphilis."

"Pathology and Treatment of Cutaneous Cancer, with Special Reference to Its Non-Parasitic Nature," was read by Dr. M. L. Heidingsfeld. It was discussed by Drs. W. T. Corlett, W. A. Pusey, E. L. Schmidt, Joseph Zeisler, Burnside Foster, D. W. Montgomery, D. Lieberthal, C. W. Allen, A. W. Brayton, and M. L. Heidingsfeld.

"Syphilis and Its Relations to Blastomycetic Dermatitis" was read by Dr. Henry G. Anthony. It was discussed by Drs. J. Nevins Hyde, F. H. Montgomery, Joseph Zeisler, A. W. Brayton, R. R. Campbell, M. Herzog, F. H. Montgomery, and H. G. Anthony.

"Notes on a Case of Keratosis Follicularis (Porospermosis)" was read by Dr. Joseph Zeisler, and discussed by Dr. F. H. Montgomery.

The Chairman appointed as Nominating Committee, Drs. Corlett, of Cleveland; Anthony, of Chicago; and Sumney, of Omaha.

It was moved and carried that the Chairman appoint a committee of three to draft a Constitution and By-Laws for the Section, to be reported at the next annual meeting. Carried.

Second Day, June 5.

Dr. Burnside Foster, of St. Paul, presented a Case of Lupus Erythematosis, One of Congenital Nevus Pigmentosus. He also reported a case of Leprosy in a man who had never been outside of Minnesota. These cases were discussed by Drs. Zeisler, D. W. Montgomery, *Corlett, Bulkley, Schuler, and Frick.*

The Nominating Committee reported Henry W. Stelwagon, of Philadelphia, for Chairman, and R. R. Campbell, of Chicago, for Secretary. Elected by unanimous vote.

"Lantern Slide Demonstration on Skin Cancer," by Dr. M. L. Heidingsfeld, of Cincinnati, was discussed by Drs. F. H. Montgom*ery and J. Nevins Hyde.*

J. Nevins Hyde and F. H. Montgomery demonstrated "Blastomycosis of the Skin" with lantern slides. Discussion was by Dr. Joseph Zeisler, Chicago.

Dr. W. T. Corlett, of Cleveland, demonstrated, by lantern slides, "The Exanthemata." Dr. S. Pollitzer, New York City, read a paper on "Smallpox."

Dr. David Lieberthal, of Chicago, discussed "Phototherapy in Cutaneous Medicine."

A paper by Dr. L. E. Schmidt, of Chicago, on "Epidermolysis Bullosa Hereditaria," was discussed by Drs. M. L. Heidingsfeld and F. H. Montgomery.

A paper on "Epithelioma of Long Duration," by Dr. William Frick, of Kansas City, was discussed by Drs. M. L. Heidingsfeld and Anthony.

Third Day—June 6.

A paper on "Rhinoscleroma," was read by Dr. Charles Warrenne Allen (by invitation), New York City, and discussed by Drs. J. Nevins Hyde, and D. Lieberthal, of Chicago; Hall, of Kansas City, and Charles W. Allen.

Drs. Charles W. Allen, of New York City, and W. L. Baum, of Chicago, were elected delegates to the House of Delegates.

Dr. David Lieberthal read a paper on "Lichen Hypertrophicus." It was discussed by Drs. Wm. Frick, Kansas City; Charles W. Allen, New York City; D. W. Montgomery, San Francisco; H. G. Anthony, Chicago; W. T. Corlett, Cleveland; L. Duncan Bulkley, New York City; R. R. Campbell, Chicago; H. C. Sumney, Omaha; M. L. Heidingsfeld, Cincinnati. and D. Lieberthal, Chicago.

A paper on "Notes on Recent Cases of Extra-genital Chancre," was read by *Dr. L. Duncan Bulkley, New York City, and discussed* by Drs. Baldwin, Chicago; E. L. Schmidt, Chicago; Montgomery, San Francisco; Charles W. Allen, New York City; R. R. Campbell, Chicago; D. Lieberthal, Chicago; W. T. Corlett, Cleveland, and L. Duncan Bulkley.

A case of dermatitis herpetiformis, in a physician, was demonstrated.

The Section adjourned *sine dic.*

Section on Laryngology and Otology.

Tuesday, June 4—Afternoon Session.

The Section was called to order at 2:30 p. m.

There being no committees to report, the first order of business was the "Address of Chairman," by Dr. John N. Mackenzie, of Baltimore, Md.

Two members of the Executive Committee being absent, the Chairman appointed two members to fill the vacancies. The Committee was then as follows: Emil Mayer, of New York City; W. E. Casselberry, of Chicago, and J. E. Logan, of Kansas City, Mo.

The Chairman stated that the reading of papers would be limited to twenty minutes and discussions to five minutes, and that papers not present when called would be deferred until all papers on the program for the session were called, and if not reached would then take their place at the end of a succeeding session.

The Chairman appointed Dr. C. M. Cobb, of Lynn, Mass., on the Banquet Committee.

"The Treatment of Laryngitis" was read by Dr. O. T. Freer, of Chicago, and discussed by Drs. E. Fletcher Ingals, of Chicago; Robert Levy, of Denver, and the Essayist.

"Edematous Laryngitis, with Report of Case," was read by Dr. J. S. Gibb, of Philadelphia.

"Total Extirpation of Thyroid Gland" was read by Dr. G. F. Cott, of Buffalo, and discussed by Dr. J. Holinger and the Essayist.

The Chair appointed the following Nominating Committee: E. Fletcher Ingals, of Chicago; S. E. Solly, of Colorado Springs, and Emil Mayer, of New York City.

Wednesday, June 5—Morning Session.

The first paper read was "Types of Membranous Pharyngitis," by Dr. W. E. Casselberry, of Chicago. It was discussed by Drs. Emil Mayer, of New York City; B. R. Shurly, of Detroit; Emil Amberg, of Detroit; J. Holinger, of Chicago, and the Essayist.

"The Relation of the Middle Turbinate Body to Chronic Nasal Diseases" was read by Dr. C. S. Baker, of Bay City, Mich., and discussed by Drs. J. F. Barnhill, of Indianapolis; W. E. Casselberry, of Chicago; G. O. Woolen, of Indianapolis; C. M. Cobb, of Lynn, Mass.; D. A. Kuyk, of Richmond, Va.; E. Fletcher Ingals, of Chicago; Emil Mayer, of New York City; J. Holinger, of Chicago, and the Essayist.

"Asthma as a Result of Nasal Conditions. Treatment, etc.," was read by Dr. J. A. Farren, of Chicago, and discussed by Drs. G. N. Jack, of New York; J. F. Barnhill, of Indianapolis, and Farren, in closing.

"An Unusual Anomaly Affecting the Faucial Tonsil," by Dr. George L. Richards, of Fall River, Mass., was read by Dr. C. M. Cobb, of Lynn, Mass. "The Effect which the so-called Catarrhal Disease of the Nose and Throat may have upon the General Health" was read by Dr. C. M. Cobb, of Lynn, Mass., and the papers by Drs. Richards and Cobb were discussed by Drs. W. E. Casselberry, of Chicago; G. O. Woolen, of Indianapolis; L. C. Cline, of Indianapolis; D. Roy, Atlanta; D. A. Kuyk, of Richmond, Va.; O. T. Freer, of Chicago; J. A. Farren, of Chicago, and C. M. Cobb, in closing.

Wednesday, June 5—Afternoon Session.

The Section members convened at 2:15 p. m.

The report of the Nominating Committee was received through Dr. Emil Mayer, recommending as officers of the Section: Dr. G. Hudson Makuen, of Philadelphia, as Chairman, and Dr. J. F. Barnhill, of Indianapolis, as Secretary. On motion, the Secretary cast the ballot of the Section for the election of the officers named.

On motion by Dr. E. Fletcher Ingals, of Chicago, the Section proceeded to the election of a Committee on Nominations. The following nominations of committeemen were made: Drs. E. Fletcher Ingals, of Chicago; W. E. Casselberry, of Chicago; O. T. Freer, of Chicago; C. M. Cobb, of Lynn, Mass.; S. Johnston, of Baltimore.

The Chair appointed as tellers Drs. Dickerman and Jackson. On the first ballot Drs. Ingals and Cobb were declared elected. There was a tie vote between Drs. Casselberry and Johnston. Drs. Casselberry and Johnston withdrew their names, and Dr. Casselberry nominated Dr. G. Hudson Makuen, of Philadelphia. On motion the Secretary cast the ballot of the Section for the election of Dr. Makuen.

"Empyema of the Frontal Sinus" was read by Dr. E. Fletcher Ingals, of Chicago. "Anomalies of the Frontal Sinus and their bearing on Chronic Suppurative Sinusitis," by Dr. Redmond W. Payne, of San Francisco. The papers by Drs. Ingals and Payne were discussed by Dr. Edward T. Dickerman, of Chicago, and closed by Drs. Ingals and Payne.

"Carcinoma of the Naso-Pharynx" was read by Dr. Chevalier Jackson, of Pittsburg, Pa.; "Sarcoma of Nasal Passages, with Report of Cases," by Dr. Dunbar Roy, of Atlanta, Ga.

Dr. E. Fletcher Ingals, of Chicago, reported, for the Committee on Nomination, the following nominations for members of the Nominating Committee: Drs. Emil Mayer, of New York City; George C. Stout, of Philadelphia; W. E. Casselberry, of Chicago; J. E. Logan, of Kansas City, and E. T. Dickerman, of Chicago. On ballot the following were elected a Nominating Committee: Dr. Emil Mayer, of New York City, for two years, and Dr. George C. Stout, of Philadelphia, for one year.

"Case of Epithelioma Involving the Tonsil, Faucial Pillar, Tongue and Buccal Surface, with Treatment and apparent Cure," was read by Dr. S. A. Oren, of Lanark, Ill. The papers by Drs. Jackson, Roy and Oren were discussed by Drs. O. T. Freer, of Chicago; John N. Mackenzie, Baltimore; C. N. Cobb, of Lynn, Mass.; J. Holinger, of Chicago, and Jackson, Roy and Oren, in closing.

"The Changes in the Facial Bones due to Adenoids" was read by Dr. A. T. Mitchell, of Vicksburg, Miss.

"A modified Leiter apparatus for the ear" was exhibited by Dr. Emil Amberg, of Detroit.

Thursday, June 6—Morning Session.

The members convened at 9:30 a. m.

"The Diagnosis and Treatment of Mastoiditis" was read by Dr. E. B. Dench, of New York City, and discussed by Drs. J. Holinger, of Chicago; Redmond Payne, of San Francisco; Emil Amberg, of Detroit; S. A. Oren, of Lanark, Ill.; Hiram Woods, Jr., of Baltimore; Sherman, of Cleveland; C. M. Cobb, of Lynn, Mass.; J. F. Barnhill, of Indianapolis; A. E. Prince, of Springfield; Camden, of Detroit; C. H. Baker, of Bay City; D. A. Kuyk, of Richmond; Robert Levy, of Denver; Brownell, of New York, and Dench, in closing.

"Mastoiditis after Subsidence and without Recurrence of Tympanic Disease," was read by Dr. Hiram Woods, Jr., of Baltimore, and discussed by Drs. E. B. Dench, of New York City; H. Harlan, of Baltimore; Emil Amberg, of Detroit; George C. Stout, of Philadelphia; Cornelius Williams, of St. Paul, and Woods, in closing.

On motion by Dr. D. A. Kuyk, of Richmond, Va., the Secretary of the Section was instructed to send out requests for laryngologic and otologic specimens for the pathologic exhibit at the next meeting.

Thursday, June 6—Afternoon Session.

The members convened at 2:30 p. m.

"Report of Case of Unusual and Interesting Tertiary Manifestations" was read by Dr. G. Hudson Makuen, of Philadelphia, and discussed by Drs. W. E. Casselberry, of Chicago; G. C. Stout, of Philadelphia, and Makuen, in closing.

A microscopic specimen was presented by Dr. J. Holinger, of Chicago, illustrating spongifying of the capsule of the labyrinth (sclerosis). It was discussed by Dr. C. M. Cobb, of Lynn, Mass.

The Section then adjourned *sine die.*

Section on Materia Medica, Pharmacy and Therapeutics.

Tuesday, June 4—Afternoon Session.

Chairman, Dr. N. S. Davis, Jr., called Section to order at 2 p. m

In the absence of Dr. J. M. Upshur, the Secretary, Frank Woodbury, of Philadelphia, was elected Secretary. Dr. A. B. Lyons offered motion of sympathy to Dr. Upshur in his illness, which was carried.

The Chairman appointed Drs. Hallberg, G. F. Butler and Jas. G. Kiernan to represent the Section in General Executive Committee.

Dr. W. Byron Coakley, of Chicago, read a paper on "Experimental Work in Intra-organic and Venous Injections and Blood Extracts in the Cure of Acute Organic Diseases." Dr. O. T. Osborne, New Haven, read a paper on "Therapeutic Indications Presented by the Conditions of the Blood in Disease." Discussion of both papers combined, by Coakley and Osborne.

Dr. John H. Musser, of Philadelphia, made a communication on "Chronic Myocarditis." Discussion by Drs. Henry Beates, S. E. Solly, O. F. Osborne, W. W. Tompkins, and Musser.

Dr. Heinrich Stern, New York, read a paper on "Treatment of Obesity."

Dr. Harold N. Moyer read a paper on "Treatment of Neurasthenia." Discussion by Drs. Shelly, Stern, Putney and Moyer.

On motion, the Chair appointed Nominating Committee: A. B. Lyons, of Detroit; O. T. Osborne, of New Haven; J. M. Dodson, of Chicago.

Wednesday, June 5—Morning Session.

Dr. F. T. Wahrer, of Fort Madison, read a paper on "A Plea for More Uniformity and Strength in Our Armamentarium." Dr. A. B. Lyons, of Detroit, read a paper on "Standardization of Crude Drugs and Galenical Preparations." Discussion by Drs. Hallberg, Walling, Wilson, Dickerson, and the Chairman.

The Chair read a communication from the American Pharmaceutical Association, announcing names of Delegates to this Section: F. J. Walling, E. Floyd Allen, Wm. A. Frost, Charles T. Hiller, Saul F. Boyce, A. B. Prescott, E. M. Houghton, F. E Stewart, S. E. Jelliffe, H. K. Mulford, H. R. Slack, C. H. G. Kile, F. S. Hereth, W. M. Sempill, G. M Beninger, C. S. N. Hallberg. On motion these delegates were invited to take part in the discussion and become members of Section for this meeting.

Wednesday, June 5—Afternoon Session.

Dr. S. E. Solly, of Colorado Springs, made a communication entitled "Indication for and Utility of Altitude Treatment of Pulmonary Tuberculosis." Dr. Norman Bridge, Los Angeles, read a paper on "Adaptability of Southern California and Similar Climates to the Needs of Consumptives." Dr. A. Burroughs, Asheville, read report on "Nineteen Years' Experience with Creosote in Tuberculosis." Dr. Arnold C. Klebs, Chicago, read a paper on "Specific Therapeutics in Pulmonary Tuberculosis." Dr. Norman Bridge read a paper on "Proper Management of the Tuberculous Lung." Discussion by Drs. Rochester, Bonney, Miner, More, Solly, Bridge and Hallberg.

Dr. DeLancey Rochester, of Buffalo, read a paper on "Treatment of Lobar Pneumonia." Dr. L. Dickerson, of St. Louis, on "The Abortion Treatment of Pneumonia; a Plea for the Use of Cardiac Depressants in the Treatment of the Congestion Stage of Pneumonia." Discussion by Drs. Rochester, Dickinson, Spilman, More, Caston, McCoy, Hawkins, and Chairman.

The report of the Nominating Committee was presented, naming Drs. G. F. Butler, of Alma, Mich., for Chairman, and Dr. C. N. Hallberg, of Chicago, for Secretary. On motion the report was adopted and candidates unanimously elected.

Thursday, June 6—Morning Session.

Dr. Boardman Reed, of Philadelphia, read a paper on "Influence of Certain Common Remedies upon Gastric Functions." Dr. Gustav Fuetterer, of Chicago, read a paper on "Treatment of Gastric Ulcer." Dr. Charles G. Stockton, of Buffalo, read a paper on "Treatment of Gastric Hyperesthesia." Discussion by Drs. Herrick, Tompkins, Fuetterer, Osborne, Johnson, Stern, McCoy, Westbrook, McCrae, Reed, and Stockton.

Thursday, June 6—Afternoon Session.

On motion the Chairman was authorized to name the two representatives of this Section in the House of Delegates. The following members were appointed delegates from Section on Materia Medica, Pharmacy and Therapeutics: Drs. O. T. Osborne, of New Haven, and A. B. Lyons, of Detroit.

In the absence of the author, an abstract of a paper on "Theory and Practice of Organotherapy," by Dr. Solomon Solis-Cohen, of Philadelphia, was read by the Secretary. Dr. Sidney Kuh, of Chicago, read a paper on "Akromegaly Treated with Pituitary Body." Dr. John M. Dodson, Chicago, read the report of a case of "Treatment of Graves' Disease with Thymus Extract." Discussed by Drs. Osborne, Boardman Reed, Davis, Woodbury, Shelly, Vaughan, Stern, Kuh and Dodson.

Dr. E. F. Houghton, of Detroit, read a paper on "Pharmacology of the Suprarenal Gland and a Method of Assaying Its Products." Dr. Jokichi Takamine, of New York, read a paper on "The Active Principle of Suprarenal Glands." Discussed by Drs. Vaughan, Stern, Reed, Dodson, Houghton and Takamine.

A communication from the Business Committee was presented by Drs. Billings and Bridge relative to consolidating the Section. Dr. Osborne moved that this Section be divided and the part of Therapeutics and Pharmacy be transferred to the Section on Practice, and the Materia Medica be consolidated with Physiology and Pathology. On motion the Chairman appointed a committee consisting of Drs. Osborne and Lyons, to confer with the members of the Section on Physiology and Pathology to determine upon the officers of the combined Sections for the next meeting.

A vote of thanks was passed to the officers of the Section for the efficient and faithful performance of their duties.

The Section adjourned *sine dic.*

Section on Physiology and Dietetics.

First Day—June 4.

The meeting was called to order by Dr. W. S. Hall, of Chicago, in the absence of the Chairman.

Two vacancies in the Executive Committee were filled by the appointment of Dr. Charles Hazen, of Virginia, to fill the unexpired term of Dr. Randall Hunt, of Shreveport, La.; and of Dr. R. Harvey Cook, of Ohio, to take the place of Dr. James Weir, Jr., of Owensboro, Ky.

Communications were received from the General Executive Committee of the Association to meet with the Committee on Reorganization at 3 p. m.; and to meet the General Executive Committee each day at 5 p. m. for the general business of the Association.

The advisability of a fusion with the Section on Pathology and Bacteriology was considered and the Executive Committee directed to confer with the Executive Committee of the Section on Pathology and Bacteriology with this end in view for 1902.

Owing to the absence of two members on the program for papers, a motion to combine the programs of June 4 and 5 was carried, and the Section dismissed to meet at 2 p. m., June 5.

Second Day—June 5.

Section was called to order, in the absence of the Chairman, by Dr. Winfield S. Hall, of Chicago.

Dr. Hall moved that owing to the impossibility of Dr. Lee attending the meeting, Dr. Charles M. Hazen be elected Chairman for the balance of the St. Paul meeting. The motion was carried.

Dr. Hall reported that pursuant to the action of the previous day, the Executive Committee of the Section had met the Executive Committee of the Section on Pathology and Bacteriology in the interest of fusing the two Sections; and that the two committees were very easily brought to a common understanding as to how this fusion should be brought about. The members of these two committees being members of the General Executive Committee, yesterday recommended that the fusion be made, to take effect in 1902. The Section on Pathology and Bacteriology is to grant to the Section on Physiology and Dietetics one member from that Section on the Executive Committee. They accord to the physiologists the Chairman every third year; and to the pathologists and pharmacologists the other two years.

It was moved that the Chairman and Secretary represent the Section on Physiology and Dietetics in conference with the Nominating Committee of the Section on Pathology and Bacteriology to see that the physiologists shall be represented in their Executive Committee, and in the offices of the new amalgamated Section. Carried.

Dr. Hall reported that it had been proposed to him to include also in this fusion the pharmacologists so that the whole field of experimental medicine might be grouped in one section.

Dr. Winfield S. Hall read a paper on "The Evaluation of Anthropometric Data," and was discussed by Drs. John Madden, of Milwaukee, and H. S. Drayton, of New York City. Dr. Hall closed the discussion.

Dr. John Madden, of Milwaukee, read a paper on "The Education of the Degenerate—A Physicobiologic Study." It was discussed by Drs. Winfield S. Hall, of Chicago; H. S. Drayton, of New York City; James Putney, of Charleston, and John Madden, in closing.

Dr. H. S. Drayton, of New York City, read a paper on "The Nervous Relation in Diseases of the Nutritive System." It was discussed by Drs. W. S. Hall, of Chicago, and H. S. Drayton, in closing.

A paper entitled "Isolation of the Active Principles of the Suprarenal Gland—A Review of the Work," by Dr. T. B. Aldrich, of Detroit; was read by Dr. E. M. Houghton, of Detroit.

On motion, Dr. L. Duncan Bulkley, of New York City, and Dr. R. Harvey Cook, of Oxford, Ohio, were elected to represent the Section on Physiology and Dietetics in the House of Delegates, and Dr. John Madden, of Milwaukee, as alternate.

Third Day—June 6.

Dr. D. E. Salmon, of Washington, D. C., read a paper on "Food Products from Diseased Animals." It was discussed by Drs. Chas. M. Hazen, of Richmond, Va.; Winfield S. Hall, of Chicago; David Paulson, of Chicago; R. Harvey Cook, of Oxford, Ohio, and Salmon, in closing.

A paper, "Living on Bread," by Dr. Alexander Haig, London, Eng., was read by the Secretary, and discussed by Drs. Winfield S. Hall, of Chicago; David Paulson, of Chicago, and R. O. Beard, of Minneapolis.

The Secretary was directed to write a note of thanks to Dr. Haig for his paper.

"The Teaching of Practical Dietetics in Medical Schools" was read by Dr. R. O. Beard, of Minneapolis, and discussed by Drs. Winfield S. Hall, of Chicago; Stewart, of Michigan, and C. M. Hazen, of Richmond, and Dr. R. O. Beard, in closing.

A paper on "Ponto-Bulbar Heat Center," by Dr. Edward T. Reichert, of Philadelphia, was read by the Secretary, and discussed by Dr. Beard, of Minneapolis.

The Section adjourned *sine dic.*

Section on Pathology and Bacteriology.

Tuesday, June 4—Afternoon Session.

The Section was called to order by the Chairman.

Address by the Chairman, Ludvig Hektoen, of Chicago.

The following papers were read: "Effect of Direct, Alternating and Tesla Currents and X-rays on Bacteria," by F. Robert Zeit, of Chicago: "Demonstration of Specimens, Slides and Photomicrographs of Uretero-intestinal Anastomosis," by F. Robert Zeit, of Chicago; "Demonstration of the Van Gehuchten-Nelis Histologic Reaction for Hydrophobia and Remarks on Hydrophobia in Ohio," by A. P. Ohlmacher, of Gallipolis, Ohio; "Carcinoma of the Lung," by E. R. Le Count, of Chicago; "The Influence of Structure and Locality on Pathological Processes," by J. S. Foote, of Omaha, Neb.

It was moved by Dr. Stengel, duly seconded, that the Chairman appoint a Nominating Committee. Carried.

The Chair appointed as such Committee Drs. W. A. Evans, Frank B. Wynn, and Joseph McFarland.

It was moved by Dr. Stengel, duly seconded, that the matter of consolidating the Sections on Pathology and Bacteriology and Physiology and Dietetics be referred to the Executive Committee, with the recommendation of favorable action thereon. Carried.

On motion of Dr. Wells, duly seconded, Dr. Ohlmacher was made a member of the Executive Committee, vice Dr. W. G. Spiller, absent.

Wednesday, June 5—Morning Session.

Section called to order by the Chairman.

The following papers were read: "The Endothelial Cells in Acute and Chronic Infections," by E. R. Le Count, of Chicago; "The Mast Cells in Acute and Chronic Infections," by Herbert U. Williams, of Buffalo (by invitation). The papers were discussed by Drs. Wells, of Chicago, and H. D. Vallens, of St. Peter. "Some Studies of Venoms and Antivenin" was read by Joseph McFarland, of Philadelphia.

Wednesday, June 5—Afternoon Session

Section called to order by the Chairman.

The Nominating Committee submitted the following report, and, on motion of Dr. Herzog, the same was adopted: Chairman, Frank B. Wynn, of Indianapolis; Secretary, W. T. Howard, of Cleveland. For Executive Committee: Terms to expire in 1902, A. Stengel, of Philadelphia; term to expire in 1903, W. S. Hall, of Chicago; term to expire in 1904, Ludvig Hektoen, of Chicago.

On motion of Dr. W. T. Howard, duly seconded, the General Executive Committee of the Association was urged to recommend to appropriate $500 to cover the expenses of a pathological exhibit at the meeting of 1902.

"Primary Sarcoma of the Esophagus and Stomach," was read by W. T. Howard, Cleveland, and discussed by Dr. Le Count, and, in closing, by Dr. Howard.

"A Study of a Fetal Stomach, with Special Reference to the Origin of Acid-Secreting Cells," by W. A. Evans and William Becker, Chicago.

"Report of a Case of Primary Carcinoma of the Appendix, and a Case of Lymphosarcoma of the Intestine, with a Discussion of the Etiology of the Latter," by S. M. White, Minneapolis.

"Isolation of Bacillus Typhosus from Unusual and Interesting Localization," by O. M. McDaniel, Minneapolis. Discussion was by Drs. Herzog and Westbrook.

"Notes on the Bacteriology and Morbid Histology of Cerebrospinal Meningitis," was read by L. B. Wilson, Minneapolis, and discussed by Dr. Hall.

"On the Growth of Epithelium," was read by Leo Loeb, Chicago, and discussed by Dr. Le Count.

Thursday, June 6—Morning Session.

Section called to order by Dr. Howard, in the absence of the Chairman.

Secretary-elect Howard presented his resignation as Secretary for the ensuing year, and, on motion of Dr. Stengel, the resignation was accepted.

On motion of Dr. Stengel, Dr. Joseph McFarland, of Philadelphia, was elected Secretary for the ensuing year.

The Secretary presented a bill of $184.45 for carpenter work, etc., in the pathological exhibit, and on motion of Dr. Stengel, duly seconded, the bill was referred to the Local Committee, with a demurrer as to the amount thereof.

"On the Nature and Significance of Granular Degeneration of Red Corpuscles," by Alfred Stengel, Philadelphia.

"Study of an Epidemic Among Guinea Pigs in the Laboratory," by Victor C. Vaughan, Ann Arbor, Mich.

"The Influence of Boric Acid and Borax on Milk Bacteria," by Wm. H. Veenboor, Ann Arbor, Mich.

"The Influence of Formaldehyde on Milk Bacteria," by Victor C. Vaughan, Ann Arbor, Mich.

Specimens of annular pancreas were exhibited by Dr. Edward F. Wells, of Chicago, for Dr. Theo. Tieken.

On motion of Dr. McFarland, duly seconded, the following members were elected as delegates to the House of Delegates: For one year, Dr. Alfred Stengel, Philadelphia, and for two yars, Dr. Wm. A. Evans, Chicago.

On motion of Dr. Ohlmacher, Dr. Charles Hazen, of Richmond, Va., was duly elected Treasurer of the Section.

On motion of Dr. Wynn, Physiology and Pathology was adopted as the title of the consolidated Sections.

The Section adjourned *sine die.*

List of Association Members Registered in the Different Sections at St. Paul, June 4-7, 1901.

The total registration at the St. Paul meeting was 1806.

SECTION ON PRACTICE OF MEDICINE.

Allen H. B., Cloquet, Minn.
Archibald F. M., Atwater, Minn.
Allen U., Jersey City, N. J.
Ankrim L. F., Pittsburg, Pa.
Arzt C. P., St. Paul, Minn.
Aud C. Z., Cecilian, Ky.
Bennett M. R. B., New York City.
Bailey William, Louisville, Ky.
Buren C R., Modena, Mo.
Boyd C. A., Lewiston, Minn.
Beebe W. L., St. Cloud, Minn.
Burrs W. B., Memphis, Tenn.
Bundy A. D., Osage, Iowa.
Bullard F. D., Los Angeles, Cal.
Bailey S., Mt. Ayr, Iowa.
Bodine J. M., Louisville, Ky.
Benjamin A. E., Minneapolis, Minn.
Brayton S., Evanston, Ill.
Breuer C. H., David City, Neb.
Burroughs J., Ashville, N. Y.
Boston L. N., Philadelphia, Pa.
Bliss J. W., Saginaw, Mich.
Beck W. M., Hanley Falls, Minn.
Bushong P. W., Summer Shade, Ky.
Boyd J. P., Akron, O.
Brookings D. J., Woodward, Ia.
Blanchard L., Edgewood, Iowa.
Buchanan J. R., Nevada, Mo.
Barr Wm. H. T., Agricultural College, Miss.

Barnes H. E. W., Creston, Iowa.
Babcock R. H., Chicago, Ill.
Briggs E., Wilmington, O.
Boyd G. J., Ellwood City, Pa.
Boehm J. C., St. Cloud, Minn.
Baer A. W., Chicago, Ill.
Braysha W. J., Berlin, Ill.
Billings F., Chicago, Ill.
Boates H., Philadelphia, Pa.
Bracken Henry M., Minneapolis, Minn.
Backman C. E., Minneapolis, Minn.
Barr J. A., McKee's Rocks, Pa.
Bay, E. L., Eddyville, Iowa.
Bannister M., Ottumwa, Iowa.
Burckhardt L., Indianapolis, Ind.
Batten J. N., Downington, Pa.
Bonney S. G., Denver, Col.
Buchman A. P., Ft. Wayne, Ind.
Butler C. A., Dell Rapids, S. D.
Bradley C. H., Minneapolis, Minn.
Berry W., S. Omaha, Neb.
Bass G. W., Minneapolis, Minn.
Craig R. W., Phœnix, Ariz.
Crummer B. F., Omaha, Neb.
Clay E. M, Oronoco, Minn.
Cobb W. F., Lyle, Minn.
Chamberlain Wm. A., Waseca, Minn.
Cottle C. J., Marshalltown, Iowa.
Catlin I. J., Delano, Minn.
Crummer B. F., Omaha, Neb.
Clay E. M., Oronoco, Minn.
Coey A. J., Chicago, Ill.
Cram M. R., Rutland, Vt.
Conley A. T., Cannon Falls, Minn.
Castles W. S., Oakland, Tenn.
Clarke R. C., Pittsburg, Pa.
Coleman T. D., Augusta, Ga.
Champlin J. R., Westerly, R. I.
Crow A. M., Kansas City, Mo.
Coleman N. R., Columbus, Ohio.
Connelly J. W., Farmington, Ill.
Christie W. H., Omaha, Neb.
Chilton E. Y., Howard Lake, Minn.
Cooley Chas. O., Madelia, Minn.
Crombie J. B., Allegheny, Pa.
Caldwell S. A., Little Sioux, Iowa.
Cook J. F., Langford, S. D.
Claydon L. E., Mazeppa, Minn.
Canavan J. V., Appleton, Wis.
Chapin H. A., Whitehall, Ill.
Clark C. R., Youngstown, Ohio.
Congdon W. O., Cuba, N. Y.
Campbell W. A., Colorado Springs, Col.
Christy W. E., Shannon City, Iowa.
Calhoun C. D., Elburn, Ill.
Chambers C. L., Kasson, Minn.
Doolittle Wm H., Woodstock, Ill.
Day F. M., Minneapolis, Minn.
Dodson J. M., Chicago, Ill.
Duncan M. J., Pleasantville, Iowa
Didama H. D., Syracuse, N. Y.
Davis J. L., Cincinnati, Ohio.
Davis Thos. D., Pittsburg, Pa.
Dougall W. M. D., Joliet, Ill.
Daniels J. W., St. Peter, Minn.
Dridge H. P., Belview, Minn.
Deland J., Philadelphia, Pa.
Doan H. C., Humboldt, Iowa.
Dodin H. A., New York City, N. Y.
Dimmitt F. W., Redwing, Minn.
Dawson J. L., Charleston, S. C.
Douglas W. E., Middletown, N. Y.
Dodge F. A., LeSueur, Minn.
Duncan M. J., Pleasantville, Ia.
Dickes, P., Greenville, Ohio.
Davis N. S., Chicago, Ill.
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Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Treatment of Puerperal Eclampsia.

R. P. R. Lyle, of the University of Durham, in an article in the *New York Lancet*, gives three great principles to be observed in the treatment of eclampsia: 1, the purifying of the blood; 2. to control convulsions; and 3, the emptying of the uterus. The first is to be accomplished by promoting diuresis, producing purgation and diaphoresis. To meet the second principle it is necessary to allay irritability of the cerebrospinal system. Morphin in his opinion has the following advantages over other cerebrospinal depressants: 1. It controls the convulsions by allaying cerebrospinal irritability. 2. It prevents the excess of waste products from being thrown into the blood. 3. It does not weaken the patient. 4. It does not injure the child. 5. It has no effect on the kidney. 6. When the patient is under its influence labor often commences, and quickly terminates without causing more convulsions.

Dionin in Disease of the Cornea.

Dr. L. Vernies, in *Klin. Ther. Woch.*, states that he uses dionin in all corneal diseases and those of the iris and ciliary body, where it is best applied in combination with mydriatics. He uses it in solution of 5 to 10 per cent. strength. Ulcers of the cornea heal rapidly under its influence. It acts especially by increasing the flow of the lymph.

Treatment of Gout.

In painful finger joints due to chronic gout, the following is recommended by Dr. Solis Cohen:

℞.	Olei gaultheriæ			
	Guaiacoli, āā	m. xx	1	33
	Camphoræ			
	Menthol, āā	gr. xv	1	
	Ol. caryophylli	m. v.		33
	Glycerini			
	Petrolati			
	Lani, āā	ʒi	4	

M. Sig.: Apply locally and rub in thoroughly.

He states that much larger quantities of the active ingredients, even up to saturation, may be used.

As a Tonic and Eliminant in Infectious Diseases of Children.

℞.	Ferri et ammon. citratis	℥ss	16
	Tinct. nucis vom.	ʒss	2
	Sol. potass. arsenitis	ʒss	2
	Tinct. calumbæ	℥ss	16
	Syr. limonis	℥i	32
	Aquæ, q. s. ad	℥iv	128

M. Sig.: One teaspoonful in water after each meal.

Glonoin in Angina Pectoris.

H. E. Lewis, in *Merck's Archives*, recommends glonoin in spasmodic contraction of muscular tissue. In angina pectoris it is recommended as follows:

℞.	Spts. glonoini		
	Spts. chloroformi, āā	ʒss	2
	Tinct. capsici	ʒi	4
	Aq. menth. pip. q. s. ad	℥i	32

M. Sig.: A teaspoonful every four hours, with a repetition of the dose immediately at the onset of the attack.

Murrel advises that the solutions of glonoin be warmed at least to the temperature of the body as it is thus more readily absorbed.

Hyperemesis of Pregnancy.

J. W. McLane, in *Med. News*, recommends complete rest in bed; have all the food given by the nurse, and keep the patient's mind away from the stomach. He recommends as a diet, peptonized milk, beef tea, preferably unsalted eggs, and raw oysters. An enema containing a few drops of tincture of opium, and one teaspoonful of brandy is good. Examine the uterus and if it is anteverted or retroverted or bound down with adhesions, tampon with gauze impregnated with boric acid, vaselin and glycerin. If the vomiting can not be stopped anesthetize, scoop out the ovum with the finger, curette, douche and insert a gauze drain.

Sciatica.

In sciatica, neuralgic headache and intercostal neuralgia the following is recommended as a local application:

℞.	Olei gaultheriæ			
	Guaiacol, āā	m. xv	1	
	Menthol	gr. x		66
	Lanolini	ʒii	8	

M. Place in a tin tube. Sig.: A small quantity about the size of a pea to be well rubbed in over seat of pain, night and morning.

Drugs in Heart Disease.

H. A. Hare, in *Ther. Gazette*, praises very highly the value of digitalis and massa hydrargyri in certain forms of heart disease. When the heart becomes incompetent as evidenced by enlargement and tenderness of the liver, the hepatic circulation is necessarily retarded. The administration of massa hydrargyri relieves this congestion and increases the activity of the liver. Hare states that it is probable that the relief of liver engorgement is accompanied by an increased ability to destroy toxic material in the circulation or in the elimination through the bile. It is also known that mercury increases renal elimination, consequently the stasis in the portal circulation is relieved, which in turn lessens the work thrown upon the heart. In some cases, he states, digitalis fails to produce proper results till mercury in this form is freely given.

To Remove Freckles. (Lentigo).

The following lotion is recommended by *Pratico del Med.*

℞.	Hydrarg. chlorid, corros.	gr. xv	1
	Zinci sulphatis	gr. xxx	2
	Aq. plumbi	ʒss	2
	Aq. rosæ	℥viii	256

M. Sig.: Apply locally night and morning.

Treatment of Warts.

The following has been recommended, in the removal of warts, by the *New York Lancet*:

℞.	Hydrarg. chloridi corros.	gr. v		30
	Acidi salicylici	ʒi	4	
	Collodion q. s. ad	℥i	32	

M. Sig.: Paint the application over the warts once a day. After a few applications the warts peel off.

Carcinoma of the Skin.

Unna, as noted in the *Post-Graduate*, places the Paquelin cautery in first rank as a therapeutic agent. This is generally used superficially, singeing the parts only. He states that he has observed a checking of the malignant process and the appearance of granulation tissue. He regards resorcin as second in efficiency used in an alcoholic solution of 5 per cent. strength, or in the form of a plaster. Resorcin seems to be more effective when combined with benzoic acid in same strength solution. He also recommends the following to be applied in the form of a plaster:

℞.	Acidi arsenosi		
	Ext. cannabis indicæ, āā	gr. lxxv	5
	Acidi salicylici	ʒv	20

M. *prepare on plaster mull.*

He states that under the use of this application, cancerous tissue breaks down, while the healthy skin will resist for a much longer period.

Asphyxia by Drowning.

E. H. Bayley, in *Northwestern Lancet*, emphasizes the following points, stating that the success of the treatment depends upon immediate action: 1. The patient should not be carried all around town before trying to resuscitate him. 2. The body should be inverted and the head and face should be kept down so that the tongue will fall forward, permitting the water to escape from the mouth. 3. The patient should be taken to the nearest house, the clothing is to be removed, and warmth is to be applied with hot, woolen blankets, and one is to keep at work until bodily heat is fully restored. Assistants should rub the body while the blankets are being changed. 4. Artificial respiration should be begun with head down and hips elevated. 5. Stimulants—as strychnin sulphate, aromatic spirits of ammonia and coffee—are to be given. 6. When respiration and circulation have commenced, one should lay the patient on his back, occasionally *rolling* him from one side to the other to lessen the danger of local congestions.

Medicolegal.

City Not Liable for Negligence of Hospital Surgeon.—The Indianapolis City Hospital is maintained and operated under a statute which provides that the department of health and charities shall be under the control of three commissioners who shall be practicing physicians, who, among other things, shall have charge of the city hospital, and are authorized and directed to prepare ordinances for the efficient regulation and management of such hospital, as may seem to them desirable. In the case of Williams vs. the City of Indianapolis, the latter was sued for damages alleged to have been sustained through the negligent and unskilful treatment given a non-paying patient with a broken arm by an alleged incompetent and unskilful physician and surgeon negligently employed in the city hospital. The Appellate Court of Indiana, however, holds that there was no liability on the part of the city. It holds that the duty imposed on the board of commissioners by the statute is governmental. The board, it says, acts for the public, not as the agent of the municipality in its corporate character. Considerable reliance, the court goes on to state, was placed on a Rhode Island decision in an action that was brought by a paying patient against a hospital administered largely as a charity, where the court seems to have treated the hospital as any other corporation. But in this case the patient being averred to have been a non-paying one and the hospital being operated by the municipality, the court holds that its exemption from liability for damages rests upon broader grounds than that of a private institution operated as a charity. It also suggests that the true doctrine, upon facts parallel with those before the Rhode Island court, is that "the damages should be paid out of the pocket of the wrongdoer, and not from the trust fund."

Commenting on Failure to Make Physician Witness.—The Supreme Court of Indiana holds, in the case of Brackney vs. Fogle, that the rule that it is proper for counsel to comment upon the failure to call accessible witnesses who know, or are supposed to know, about the facts in controversy, does not apply to the failure to call a privileged witness. This was a suit to contest a will upon the ground of mental unsoundness and undue influence. During his argument to the jury, an attorney for the contestants was permitted to comment on the exclusion as a witness, upon the objection of the administrator, of the physician who had attended the testatrix in her last illness, and he commented on the right of the administrator to waive the statute, and permit the physician to testify, and to call him as a witness. Among many other things, the attorney said, in effect, that the doctor had been with the testatrix shortly before the will was executed, knew her condition, could and would have told it, and that the witness was kept from the stand to suppress the truth. The judge, who allowed this, instructed the jury that, under the law, the administrator had the legal right to object to the physician's testifying to any facts that came to his knowledge while professionally treating the testatrix, such matters being confidential; but the administrator had the right to waive objection to such testimony, and could himself call the doctor to the stand, and his failure to do so, or permit him to testify to such facts, might rightfully be commented on by counsel, and that the jury might consider the conduct of the administrator in these respects, with all the other evidence, in determining the case. The Supreme Court holds that this was reversible error.

Damages for Loss of Arm after Amputation of Fingers.—The case of Rich vs. Moore was brought to recover damages from a physician for the loss of an arm which it was alleged that, on account of his negligence, had to be amputated above the elbow some 18 days after an injury to the hand which was so severe that it was necessary to amputate the fingers, which the defendant and another physician called by him did, after which he treated the case for 5 or 6 days, when he surrendered it, refusing to consult or act with another physician then called in. Further facts are not given. But there was a verdict and judgment for the plaintiff. This latter, however, the Supreme Court of Iowa reverses for the inadvertent use of the word "plaintiff" instead of "defendant" in the clause beginning with "but" in the following part of an instruction to the jury: "To render the defendant liable, there must not only have been negligence on his part in some manner as charged, without contributory negligence of plaintiff or others caring for him, but such negligence of plaintiff, if shown, must have been the proximate cause of the injury." As the instruction read, the court says that it was erroneous, as, under the well-settled doctrine, any negligence of the plaintiff contributing to the injury complained of would defeat his recovery of damages. Another point to which the defendant took exception was to the plaintiff being permitted to prove what he had earned, per year, before his arm was taken off, and what he had earned since. This was assigned as error, on the ground that an amputation of the fingers of the hand was conceded to have been necessary, and the difference in his earning capacity should have been confined to his condition after his fingers were removed, instead of as a sound man. This objection the court, however, does not think well taken. It says that it is not always possible to produce evidence which shall meet exact conditions. The man was a farmer and farm hand. Whether he might have produced evidence tending to show what a man with the fingers of one hand gone might have earned at that work, the court does not know; but men so afflicted are not common, and the court is satisfied with the result in this respect as it thinks the verdict returned showed that the jury gave due consideration to this difference in physical perfection, although it does not state what was the amount of the verdict.

Criminal Abortion: Its Seriousness, Proof, Punishment.—The Supreme Court of Idaho says, in the case of State vs. Alcorn, that an unnatural abortion, brought about by means of drugs or instruments, violates decency, the best interests of society, the divine law, the law of nature, the criminal statutes of that state, and is not only destructive of a life unborn, but places in jeopardy the life of a human being,—the pregnant woman. Both actors, when there are two, are guilty of felony, and ought to be punished by the law, if the woman survives; and, if she does not, then the person or persons participating in the abortion should be punished. This crime is one of grave consequences to society. The law prohibits it and prescribes severe penalties. The law ought to be strictly enforced. Furthermore, in a case of this kind, the court says that it will not notice purely technical errors, which do not prejudice the substantial rights of the accused, for the purpose of reversing the verdict returned by the jury, especially where it is satisfied that substantial justice has been done. Under the statutes of Idaho, the crime of abortion may be committed prior to the quickening of the fetus, but the rule is otherwise at the common law. Then, the corpus delicti, or substance of the offense, the court holds, may be proven by declarations and circumstances, but the order in which the evidence proving the different material facts is introduced is not material. In a prosecution upon the charge of murder, where the death of the deceased is alleged to have resulted from an operation performed for the purpose of bringing about an abortion, the pregnancy of the deceased must be proven beyond reasonable doubt, but need not be demonstrated to an absolute certainty. In case of homicide resulting from an operation performed by the accused upon the body of the deceased to bring about an abortion, the declaration of the deceased, made at the time she was introduced to the accused, to the effect that she was pregnant, and which had direct reference to the contemplated transaction between the deceased and the accused, the court holds, is admissible in evidence as a part of the res gestæ, or essential circumstances of the transaction. It also holds that where an unnatural abortion is sought to be caused by the use of instruments and drugs, or either, and death results, an abortion not being necessary to save the life of the woman, such acts, under the statutes of Idaho, constitute the crime of murder in the second degree; and an instruction that such acts constitute the crime of murder in the second degree or manslaughter is erroneous.

Sufficient Evidence of Malpractice to go to Jury.—In the case of Degelau vs. Wight, brought against two physicians practicing in partnership to recover damages for the death of a woman which was alleged to have been caused by their negligent and unskilful treatment, the Supreme Court of Iowa has reversed a judgment entered in their favor on a directed verdict. The woman, who was 21 years of age when she died, had nearly seven months before that given birth to a child, and, although she was up again in a week or two, had thereafter been troubled with intermittent pains, finally consulted the defendants, and, on their advice, submitted to the operation of curettage of the uterus. As one witness put it, they said her trouble "was something of the afterbirth of the child." About an hour and a half was consumed in performing the operation, both physicians leaving about half an hour later and before the patient had recovered consciousness, or at about 11 a. m. During the day she became worse, suffered severe pain, and died at 10 o'clock in the evening. There was evidence tending to show that it was not probable that any part of the afterbirth could have remained in the womb so long, and also evidence from which a jury might have been justified in drawing the inference that no necessity existed for the operation of curettage. At a post-mortem examination the uterus was removed, and it was found to be torn to the extent of an inch or an inch and a half, so that the handle of a scalpel was passed through the hole. The membrane also gave evidence of having been scraped, there being three deep furrows about an eighth of an inch apart. The condition described was said to be sufficient to cause death, either directly or from the resulting shock. It was also shown that a tear like that made in curetting the uterus could have been discovered by the operator, and that a proper course, on its being known, would either be to sew it up, or give medicine to sustain the patient until the shock was over, and then permit nature to repair the wound. The foregoing was the evidence most favorable to the plaintiff, and without wishing to be understood as expressing an opinion as to its weight, nor as suggesting the conclusion that a jury should deduce from it, the Supreme Court holds that it made a case upon which a jury should pass, and that it was error to take the case from the jury, the question of negligence being one of law only when from the facts all reasonable men must draw the same conclusion. That none but the organs in the abdominal cavity were inspected at the autopsy, and none of the physicians examined as witnesses attempted to say that no other cause of death existed, the court holds, affected only the weight of their testimony.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, June 22.

1 *Syphilitic Fever, with a Report of Three Cases. Thomas B. Futcher.
2 *The Evolution of the Ophthalmoscope and What It Has Done for Medicine. Samuel Theobald.
3 An Introduction to the Psychological Study of Backward Children. William B. Noyes.
4 *Inguinal Bubo as a Complication of Malarial Fever. A. C Smith.

Medical News (N. Y.), June 22.

5 *Psychic Epilepsy, with the Report of a Case. J. W. Courtney.
6 *The Medical Expert Evidence in the Case of the Davis Belle-

vue Hospital Homicide. R. L. Pritchard.
7 *Obstipation. Sterling B. Taylor.
8 *A Study of Some Complications and Sequelæ of Typhoid Fever. (Concluded.) H. A. Hare and H. R. M. Landis.

Medical Record (N. Y.), June 22.

9 *Hernia of the Urinary Bladder. W. S. Cheesman.
10 *The "Nauheim Treatment." H. Newton Heineman.
11 *On Nephrorrhaphy with Flap Fixation. Arnold Sturmdorf.

Cincinnati Lancet-Clinic, June 22.

12 *Intra-ligamentous Ovarian Cysts: Diagnosis and Treatment. Chauncey D. Palmer.
13 Mathematics in Medicine. H. H. Spiers.

American Medicine (Philadelphia), June 22.

14 *The Treatment of Abdominal Aortic Aneurysm by a Preliminary Exploratory Celiotomy and Peritoneal Exclusion of the Sac, followed at a Later Sitting by Wiring and Electrolysis, with the Report of Two Hitherto Unpublished Cases. (To be concluded.) Rudolph Matas.
15 *The So-called Traumatic Neuroses. Harold N. Moyer.
16 *Resection of Superior Sympathetic Cervical Ganglion for Non-inflammatory Glaucoma. Joseph Mullen.
17 *The Bacteriologic Examination of Clinical Thermometers. Randle C. Rosenberger.
18 *Atypical Pneumonia and Pulmonary Tuberculosis. W. H. Bergtold.
19 *Electrolysis in Diseases of the Skin. F. E. Wisecup.
20 *The Nervous Exhaustion Due to West Point Training. Charles E. Woodruff.

Philadelphia Medical Journal, June 22.

21 A New Hemorrhoidal Clamp. G. Milton Linticum.
22 A Needle for Silver Wire. L. J. Y. Gemella.
23 *Further Notes on a Case of Pernicious Anemia Reported at the Meeting of the Association of American Physicians in 1900; with Remarks on the Diagnosis of the Disease. Frederick P. Henry.
24 A Case of Severe Anemia, with Changes in the Spinal Cord. Wm. E. Hughes and William G. Spiller.
25 The Teaching of Chemical Pathology. Alonzo E. Taylor.
26 *Theoretical and Practical Considerations on the Treatment of Jacksonian Epilepsy by Operation; with the Report of Five Cases. (Conclusion.) James J. Putnam.
27 *What I Have Learned from 161 Operations for the Relief of Senile Hypertrophy of the Prostate Gland. (Conclusion.) Orville Horwitz.

Boston Medical and Surgical Journal, June 20.

28 A Study of the Food Consumed and Digested by Four Members of the Harvard University Boat Crew in June, 1900. (To be continued.) W. O. Atwater and F. G. Benedict.
29 *Puerperal Insanity. Edward B. Lane.
30 *The Home Treatment of Tuberculosis vs. the Climatic Treatment. Edward O. Otis.
31 A Case of Marked Cyanosis, Difficult to Explain. Sylvester F. McKeen.

American Practitioner and News (Louisville), May 1.

32 Arthritis Deformans and Its Relation to Some Diseases Due to Perverted Metabolism. Joseph W. Irwin.
33 Lupus Vulgaris. John E. Hays.
34 Arsenauro in the Treatment of Some Nerve Diseases, with Report of Cases. J. J. Wakefield.
35 Salpingo-oophorectomy for Dysmenorrhea and Neurasthenia of Ovarian Origin. J. T. Green.
36 The Electro-magnet in Ophthalmic Surgery. Yataro Ota.

Pediatrics (N. Y.), June 1.

37 *The Importance of the Early Recognition of Ear Troubles in Children. MacLeod Yearsley.
38 *The Therapeutic Value of Thermol. Edwin Rosenthal.
39 A Case of Intussusception. S. Kunz.
40 A Case of Infantile Scurvy with Recovery. I. A. Abt.

Medical Fortnightly (St. Louis), June 10.

41 Surgery at the Illinois State Medical Society. Carl E. Black.
42 An Inquiry into the Action of Heroin Hydrochlorid. C. D. Center.
43 Diagnosis in Diseases of Infancy. John Zahorsky.
44 Diseases of the Lungs and Pleura. Albert Abrams.

Cleveland Journal of Medicine, June.

45 *Report of Two Cases of Angiosarcoma of the Brain. Roger G. Perkins.
46 *The Morbid Anatomy of Epilepsy, being a Summary of the Results in 130 Autopsies. A. P. Ohlmacher.
47 Thirty-three Consecutive Abdominal Sections in General Practice. A. E. Warren.
48 A Case of Double Vagina and Uterus. Hunter Robb.
49 Gallstones. J. Robert Caywood.
50 Gallstones. Edwin Ricketts.
51 *Our Ideals in Appendicitis. N. Stone Scott.
52 A Case of Congenital Dislocation of the Hip with Unusual Family History. W. G. Stern.

The Post-Graduate (N. Y.), June.

53 The Treatment of Pneumonia. Leonard Weber.
54 A Practitioner's Treatment of Inflammatory and Ulcerative Conditions of the Larynx. H. Beaman Douglass.
55 Materials and Technique of Plaster-of-Paris Jacket. Dexter D. Ashley.
56 Report of Clinic. Dr. Wilkin.

Fort Wayne Medical Journal-Magazine, May.

57 Tetanus. G. W. Thompson.
58 Microscopic Aids in the Diagnosis and Treatment of Pneumonia. D. J. Loring.

Archives of Pediatrics, June.

59 *Congenital Occlusion of the Duodenum. Louise Cordes.
60 *Syphilis of the Liver with Large Gummata in Late Childhood. David L. Edsall.
61 A Report of Two Cases of Cancrum Oris. William S. Bainbridge.
62 Duhring's Disease in Childhood. William S. Gottheil.
63 Abscess of the Ethmoid and the Antrum of Highmore. J. Morrison Ray.

Canadian Practitioner and Review (Toronto), June.

64 Notes on Eclampsia. K. C. McIlwraith.
65 Medical Aspects of Cancer of the Breast. William Osler.
66 New Observations on the Treatment of Anemia and Chlorosis. F. Sontag.

Chicago Medical Recorder, June.

67 Further Observations on Rapid Osteoclasis for the Correction of Rachitic Deformities of the Legs. Wallace Blanchard.
68 Operation for Postmenopausal, Complete Prolapse of the Uterus; Operation for Extensive Vesicovaginal Fistula. J. Clarence Webster.
69 Abdominal Colopexy for Prolapse of the Rectum. John B. Murphy.
70 Goiter Complicated by Stenosis of the Trachea. William E. Morgan.
71 Gastrostomy. E. Wyllys Andrews.
72 Two Cases of Weak Heart. George W. Webster.
73 Medical Cases. James B. Herrick.

Journal of Nervous and Mental Disease (Nyack, N. Y.), June.

74 *A Case of Bullet Wound in the Spinal Cord: Operation Three Years Later. Joseph Sailer.
75 *The Rationale of Subjective Healing. Smith Baker.
76 An Anomalous Case of Paralysis and Dystrophy of Muscles Probably Dependent upon Both Neutral and Spinal Lesions. (Not Primary Neurotic Atrophy.) F. X. Dercum.
77 Notes of a Remarkable Case of Insomnia and Its Treatment. John E. Beebe.

Kansas City Medical Record, June.

78 Meningitis. H. O. Hanawalt.
79 Estivo-autumnal Fever. Calvin Atkins.

Medical Sentinel (Portland, Ore.), June.

80 Reciprocity Between State Medical and Licensing Boards. C. E. Worthington.
81 Report of Case of Dynamic Ileus. L. P. McCalla.
82 Post-Graduate Study in London. Warren Brown.

Annals of Otology, Rhinology and Laryngology (St. Louis), May.

83 *A Consideration of the Pathology of the So-called Neurotic Inflammations of the Mouth. J. L. Goodale.
84 The Etiology of Malignant Tumors. C. Ziem.
85 Laryngeal Disturbances in the Diseases of the Central Nervous System with Special Consideration of Laryngeal Disturbances in Tabes Dorsalis. Dr. Johann Sendziak.

Medical Bulletin (Philadelphia), June.

86 A Clinical Lecture on Three Cases of Malarial Fever; Two of the Tertian and One of the Quotidian Type. J. M. Anders.
87 Removal of Carcinomatous Breast. William L. Rodman.
88 Some Anemic Conditions. Frank D. Newton.

Medical Standard (Chicago), June.

89 Appendicitis and Its Treatment. A. J. Ochsner.
90 A Dermatological Clinic. David Lieberthal.
91 Drug Habits and Their Treatment. T. D. Crothers.
92 Differential Diagnosis of Infectious Processes in the Right Iliac Fossa. Valdemar Pleth.
93 Adaptation of Apothecaries' Weights and Measures to the Metric System. C. S. N. Hallberg.

Annals of Gynecology and Pediatry (Boston), June.

94 *Malignant Disease of the Breast. (Concluded.) J. Collins Warren.

95 Pregnancy and Tuberculosis. (Concluded.) M. Samuel Bernheim.
96 Salpingitis. Henry Matthey.

Medical Summary (Philadelphia), June.

97 Practical Experience. J. S. Leachman.
98 Morphin Habit as a Nervous Disease. C. E. Patterson.
99 Vaccination. S. A. Buchanan.
100 Justice. C. Fletcher Souder.
101 Treatment of Hypertrophied Prostate Gland. H. B. Stanley.
102 Dilated Stomach. M. G. Price.

Memphis Medical Monthly, June.

103 The Work and the Reward of the Physician. James L. Minor.
104 *Have We a Continued Fever Which Is Neither Typhoid Nor Malarial? T. J. Happel.
105 The Limitations of Medicine. G. W. Penn.
106 Unusual Case of Bright's Disease—Recovery. D. A. Walker.
107 Burns and Their Treatment. Allen E. Cox.
108 Hospital Cars for Railway Service. G. B. Thornton.

Mississippi Medical Record (Vicksburg), June.

109 A Degeneration of the Maternal Obligation. J. C. Weaver.
110 Ulcers of the Leg. J. W. Hunnicutt.

Vermont Medical Monthly (Burlington), May 25.

111 Hemianopia. A. T. M. Chisholm.
112 The Relief of Pain. Edmond J. Melville.

Bulletin of the Johns Hopkins Hospital (Baltimore), April-May-June.

113 On the Study of Anatomy. Lewellys F. Barker.
114 *On the Occurrence of Tails in Man, with a Description of the Case Reported by Dr. Watson. Ross Granville Harrison.
115 Development of the Pig's Intestine. John Bruce MacCallum.
116 *Bilateral Relations of the Cerebral Cortex. E. Lindon Mellus.
117 A New Carbon-dioxid Freezing Microtome. Charles Russell Bardeen.
118 Notes on Cervical Ribs. Clinton E. Brush, Jr.
119 On the Preservation of Anatomical Material in America by Means of Cold Storage. Abram T. Kerr.
120 *On the Development of the Nuclei Pontis During the Second and Third Months of Embryonic Life. Margaret Long.
121 *The Architecture of the Gall-bladder. Mervin T. Sudler.
122 Remarkable Cases of Hereditary Anchyloses, or Absence of Various Phalangeal Joints, with Defects of the Little and Ring Fingers. George Walker.
123 *Note on the Basement Membrane of the Tubules of the Kidney. Franklin P. Mall.
124 A Composite Study of the Axillary Artery in Man. J. M. Hitzrot.
125 On the Origin of the Lymphatics in the Liver. Franklin P. Mall.
126 Born's Method of Reconstruction by Means of Wax Plates as Used in the Anatomical Laboratory of the Johns Hopkins University. Charles R. Bardeen.
127 Model of the Nucleus Dentatus of the Cerebellum and Its Accessory Nuclei. Harry A. Fowler.
128 Use of the Material of the Dissecting Room for Scientific Purposes. Charles R. Bardeen.
129 On the Development of the Human Diaphragm. Franklin P. Mall.
130 Observations on the Pectoralis Major Muscle in Man. Warren H. Lewis.
131 On the Blood-Vessels of the Human Lymphatic Gland. W. J. Calvert.
132 Normal Menstruation and Some of the Factors Modifying It. Clelia D. Mosher.
133 Retrojection of Bile into the Pancreas, a Cause of Acute Hemorrhagic Pancreatitis. W. S. Halsted.
134 The Etiology of Acute Hemorrhagic Pancreatitis. Eugene L. Opie.

Southern Illinois Journal of Medicine and Surgery (Metropolis), May.

135 The Good of the Association, and the Journal. A. C. Ragsdale.
136 Examination of Urine as a Method of Diagnosis. P. S. Waters.

Buffalo Medical Journal, June.

137 The Conservative Treatment of Injuries of the Extremities. Chauncey Pelton Smith.
138 Skin Grafting. F. B. Rasbach.
139 *The Making and Fitting of Spectacles and Eyeglasses from the Optician's Standpoint. P. H. Meyer.
140 Fractures of the Nose. Marshall Clinton.
141 *The Pathology of Asthma. G. N. Jack.
142 Severe Melancholia Consequent upon Pelvic Disease. L. G. Hanley.
143 Complicated Hysteromyomectomy. Chas. Banta.
144 Hypertrophic Rhinitis Treated Successfully with Adrenalin Chlorid Solution. Franklin W. Bock

Texas Medical News (Austin), April.

145 Public Hygiene—State Medicine. R. H. Harrison.
146 Circular Enterorrhaphy. F. W. Kirkham.
147 Post-operative Treatment of the Rectum. O. L. Norsworthy.
148 Location of Foreign Body in Eye with X-rays as Used in the Royal Ophthalmic Hospital, London, England. E. P. Daviss.
149 Intestinal Auto-intoxication—Report of Cases. R. W. Baird.

May.

150 Jury Trials of Insane. Marvin L. Graves.
151 Normal Salt Solution. A. C. Scott.
152 Intestinal Colic. T. J. Ratliff.

Texas Medical Journal (Austin), June.

153 Pelvic Abscess. R. M. Dunn.

International Journal of Surgery (N.Y.), June.

154 *Practical Suggestions upon the Treatment of Rectal Diseases. James P. Tuttle.
155 *Briefs on the Surgery of the Genito-urinary Organs. G. Frank Lydston.
156 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
157 Necrosis of the Cranial Bones—With an Illustrative Case. W. King.
158 Regional Minor Surgery. (Continued.) George G. Van Schaick.
159 Acute Ileus Due to Chronic Obstruction at the Splenic Flexure. Operations. Recovery. Howard Lilienthal.
160 Exostosis Preventing Flexion of the Knee—Appendicitis. Wm. L. Rodman.

Alabama Medical Journal (Birmingham), May.

161 Chronic Interstitial Nephritis—Its Diagnosis and Treatment. E. D. Bondurant.
162 The Pernicious Vomiting of Pregnancy. M. B. Cameron.
163 Fevers. M. C. Schooler.
164 Veratrum Viride. A. E. Meadow.
165 Acute Lobar Pneumonia. J. U. Ray.

New England Medical Fortnightly (Danbury, Conn.), June.

166 The Benefits of Hypnotics in Cases of Pulmonary Tuberculosis. John L. Hughes.
167 My Last Year's Experience with La Grippe. J. D. Hopper.
168 On the Use of Thialion in the Treatment of Alcoholic Gastric Catarrh. Buchanan Burr.
169 A Striking Analogy Between the Physiology of Animals and That of Plants. Edward D. McDaniel.
170 The Medical Treatment During the Adolescent Period. Edwin Rosenthal.
171 The Necessity of a More Perfect Aeration—Preliminary Statement. H. H. Spiers.

AMERICAN.

1. **Syphilitic Fever.**—After reporting three cases illustrating various points in regard to the condition, Futcher sums up the following as to be emphasized in this connection: 1. In all cases of fever of obscure origin the possibility of it being syphilitic should be borne in mind. 2. Experience has shown that physicians of reputation, as well as those of limited experience, are prone to mistake the condition for one of the acute specific fevers. 3. The affections for which syphilitic fever is most often mistaken are malaria, typhoid fever, tuberculosis, sepsis, and occasionally rheumatic fever. 4. The fever may occur as early as four weeks previous to the appearance of the secondary skin eruption, or, what is of greater importance, late in the disease after tertiary manifestations have existed probably for years. 5. The fever may be continuous, remittent, or intermittent. The remittent type is regarded as the most frequent form in the fever of invasion. The fever is often associated with chills and sweating. 6. Careful examinations of the long bones and viscera for evidences of tertiary lues should be made in all cases of fever of obscure origin.

2. **The Ophthalmoscope.**—The history of the ophthalmoscope is given very thoroughly by Theobald; he gives full credit to Babbage, who is not usually recognized by medical writers as the originator of the ophthalmoscope. He says that while Helmholtz deserves a certain amount of credit, that which was essential in his ophthalmoscope was not wholly original, and that which was original was not only distinctly not essential, but was the outcome of a misconception—a fortunate misconception as it turned out—upon his part. Within a few months of the announcement, the method of illuminating the eye which he suggested was to a great extent put aside for that of the ill-starred Mr. Babbage. Other names connected with the early history of the ophthalmoscope are mentioned, such as Spencer Wells, etc. The importance to ophthalmology of the instrument, he thinks, is best illustrated by a comparison

to a ship without a rudder, compass and sextant, and not only ophthalmology but neurology and other departments of medicine are benefited by it.

4. **Malarial Buboes.**—Smith reports five cases of inguinal buboes as complications of malarial fever, giving temperature charts and daily records. He has observed other cases and calls attention to the phenomenon as a matter of much importance and occurring without the suspicion of venereal infection and clearly dependent upon the fever. In conclusion he remarks on the reported existence in Cebu, P. I., of many cases of mild fever with glandular enlargement, and suggests that it will be interesting to know what these cases prove to be on investigation.

5. **Psychic Epilepsy.**—Courtney gives a description of the phenomena of psychic epileptic attacks and concludes that psychoses of epilepsy have very definite and immediate associations with other and irrefragible manifestations of the disease, that the plea of irresponsibility for criminal acts alleged to have been committed while the individual was suffering from epilepsy should be considered invalid unless other manifestations can be adduced, and that vague and ill-defined convulsions which date back to infancy do not constitute such other manifestations. He reports a case at some length as illustrating the intellectual petit mal. It was traumatic in its origin and presented the features of the "absences" of consciousness, amnesia and automatic acts.

6. **Medical Expert Evidence.**—The special case of the Bellevue Hospital attendant who was tried for murder of a patient and the differences of medical opinion adduced in the trial form the text of Pritchard's article. The charges made against the medical expert testimony generally he thinks are harsh and he criticizes certain points in the management of the case by the prosecution. He says medical expert testimony is more often defective from the manner of its presentation than from an assumed yielding of expert witnesses to whatever opinion is desired of him. Medical expert testimony has the indifferent witness who makes the possibilities of medical science his excuse for almost any opinion and such should be branded by the medical profession as cankers eating into their professional body. This last class of medical expert evidence is not found, however, in a trial of great public interest where the medical witnesses are the foremost members of the medical profession.

7. See abstract in The Journal, xxxv, p. 1048.

8. **Typhoid Fever.**—Hare and Landis conclude their article, reviewing the respiratory complications, the temperature in the well-developed stage, the skin lesions, eruptions, genitourinary symptoms in the developed disease and the symptoms on the side of nervous system and alimentary canal. Typhoid without intestinal lesions is mentioned, as are also the circulatory and blood changes.

9. **Hernia of the Bladder.**—Cheesman commences his paper with a report of cases, then passes to the history of the condition, its anatomical conditions, etiology and treatment. He concludes his paper with the following conclusions: 1. That the principal cause of bladder hernia is direct traction exercised through the peritoneal coat by the weight of the hernial mass, or by pull on the sac during ligation in operations for radical cure. 2. In one-sixth of the cases symptoms occur sufficient to arouse suspicion, sometimes amounting to certainty, of the existence of the abnormality. 3. In about one-fourth of the cases it may be possible during operation to recognize the bladder and avoid injuring it; and after one hernial sac has been found, any structure resembling a second should be regarded as bladder, till proved otherwise. 4. When the bladder is wounded, the best procedure is immediate suture by two layers of catgut, and closure of the hernial wound by Bassini's method; a small drain only being left leading to the bladder suture line. The bladder wall, when thinned, may be freely resected preparatory to closure. The catheter *à demeure* is not essential to primary union of wounds thus closed. 5. Urinary fistula nearly always closes spontaneously. 6. Injuries of the bladder have been directly responsible for death in only 10 per cent. of the hernia cases in which they occurred.

10. **The Nauheim Treatment.**—Heineman is a strong advocate of the Nauheim treatment, which he finds beneficial in a very large proportion of cases. He describes the methods and the dietary advised, and gives results. He thinks it is indicated in rheumatism, gout, inflammatory exudates, functional and incipient organic spinal disorders, spinal congestion, neurasthenia and early stage of locomotor ataxia, chorea, sciatica, and certain forms of neuritis; in circulatory disorders; in the conditions produced by chlorosis, hemophilia, and Barlow's disease, early arteriosclerosis, and aneurysm only in its incipiency; also in varicose condition of the veins; in all vasomotor disturbances. In cardiac diseases, it is indicated in myocarditis, fatty heart and all forms of loss of compensation, whether dependent upon muscular changes or valvular disease; also in angina pectoris and all forms of functional cardiac disorder. Its contraindications are Bright's disease, advanced aneurysm, and serious cases of advanced arteriosclerosis in which only with the utmost conservatism and watchfulness can good results be obtained and justify treatment. He cautions against too rapidly increasing the treatment, and remarks that in selecting the character of the bath and its temperature it should be kept clearly in mind that cool baths produce different physiologic effects from warm baths. Experience with every given case will have to be the guide to treatment.

11. **Nephrorrhaphy.**—The method here described by Sturmdorf and the case reported is the same as Edebohls' method as published in his article on movable kidney in the *American Journal of Obstetrics* in 1895, as far as incision and ablation of the tissue is concerned. After that the formation of the flaps is made in the following manner: "The kidney was pushed as near to the surface as possible, and steadied there by pressure exerted through the abdominal wall by the hand of an assistant. The capsula propria was incised longitudinally, exactly in the median line to within about three-fourths of an inch from either pole. A pair of closed curved, blunt-pointed scissors was introduced beneath this capsular incision, and the capsule was carefully separated from the kidney substance for an area corresponding to the longitudinal capsular incision in length and to the lateral borders of the kidney in width. The free capsule was now raised by mouse-tooth forceps; two flaps were formed with blunt-pointed scissors by slitting the capsule laterally at each end of the longitudinal incision, as shown in the diagram. The flaps were secured in the grasp of T-shaped forceps, while two silkworm retention sutures, equidistant from each other and from either pole of the kidney, were passed through skin, superficial fat, the tendons of the abdominal muscles, the cut and trimmed edges of the perirenal fatty capsule, the fibrous capsular flaps, and the parenchyma of the kidney, at a depth of about three-fourths of an inch from its surface, and left untied for the time being. The object of these sutures was not only to aid in relieving tension but to obliterate any possible hollow spaces, thus obviating the necessity for drainage, and at the same time securing firm coaptation of broader surfaces for subsequent cicatricial union. Longitudinal slits, corresponding in location and length to the position and width of the fibrous capsular flaps, were next made through the adjacent muscular tissue, and the flaps drawn through these slits were secured in place by a running suture of fine chromicized catgut. Three interrupted sutures of No. 3 chromicized gut were next passed so as to embrace muscle and kidney substance at a level with and equidistant from the above-mentioned silkworm sutures, and tied. The final suture included skin, superficial fat, and fascia, after which the silkworm sutures, originally left hanging loose, were drawn taut by means of shot and plate. Primary union occurred, the removal of the silkworm sutures being effected on the eighth day."

12. See abstract in The Journal of June 8, p. 1649.

14. **Moore-Corradi Method.**—The essential features of this method as stated in the article consist in: 1. A thorough exploration of the tumor by celiotomy, which permits a recognition of the approximate anatomic seat and relations and

furnishes valuable information as to its characteristics—an advantage not afforded in thoracic aneurysm. 2. The safe exposure and even permanent isolation of the point of attack in the most accessible part of the tumor by the formation of adhesions between the sac and abdominal wall, diminishing the shock and liability to perineal contamination. 3. The introduction at a second sitting after adhesions have formed and the sac becomes extraperitoneal of a highly drawn fine snarled silver wire, which should not exceed a No. 28 gauge (0.0085 inch) in diameter. Sterling silver will meet all the indications. 3. The wire should be fed or carried into the aneurysmal sac through a fine and carefully insulated trocar or cannula (shellac, celluloid, or rubber being used as the insulating agents, and the caliber of the canula not exceeding a No. 2 Dieulafoy aspirating needle). 5. The wire should be tested, first to determine the following points: That it will coil in large irregular loops so as to be distributed over the widest possible surface. That it will not form short continuous spirals with such spring and force as to cause injurious pressure on the aneurysmal walls, or, after finding its way into the aorta through a large orifice spring as it were, into the heart itself. It is important for the quantity of wire used to be adjusted to the size of the aneurysm so that retraction after coagulation may not be interfered with by its resistance. As a rule, 10 ft. will suffice for the average aneurysm, though larger quantities are advised in certain cases. 6. The electric current should be furnished by a galvanic battery with a positive pole attached to the wire, and the negative electrode well covered with a wet cloth, to the back. A milliampere meter should be connected with the circuit, to show the strength of the current, which should not exceed 70 milliamperes, for fear of caustic effects. The intensity of the current and the duration may vary within wide limits corresponding to the condition of the patient and the effect upon the tumor. In his case reported, the sitting was prolonged four hours and twenty minutes without appreciably bad effects after the sac had been rendered extraperitoneal. 7. The coincident administration of gelatin (3 per cent.) in decinormal saline solution (7 per cent. salt) in 6 or 8 ounce doses by hypodermoclysis, as suggested by Lancereaux, may be a useful adjuvant to rest, diet. and other general measures. The question whether this method is applicable to all forms or only special anatomical conditions is raised and Matas concludes that it is evident that there may be a comparatively small percentage of cases favorable and another much larger group not amenable to this procedure and where it is contraindicated.

15. **Traumatic Neuroses.**—Moyer concludes his paper by suggesting the following points for discussion: That concussion neurosis, in all its various appellations, is an unfortunate and misleading term; that clearer understanding of functional nervous troubles renders such a term unnecessary; that pain and tenderness of the spine is rarely an evidence of change in the cord, but is usually due to fatigue of the spinal muscles, or sprains and concussions of the column; that most of the symptoms of spinal concussion, as the term is commonly used, are cerebral in origin, and that a correct diagnosis and prognosis may usually be reached by analyzing all such cases after the same manner that we do functional nervous troubles having their origin in non-traumatic causes.

16. **Sympathetic Resection in Glaucoma.**—After mentioning the opinions *pro* and *contra* and methods of performing the operation. Mullen reports a case of excision of the sclerotic superior cervical ganglion for glaucoma. He puts it on record as agreeing with one reported by Panas in being followed by declining vision and, therefore, as showing that resection of the sympathetic in glaucoma does not always produce permanent curative results.

17. **Clinical Thermometers.**—Rosenberger has examined the clinical thermometer after ordinary cleansing, for bacterial contamination in various diseases, indigestion, gout, measles, scarlet fever, tuberculosis, diphtheria and bronchitis, and sums up his results in the following conclusions: 1. It is possible for the thermometer to be laden with the usual flora of the oral cavity. 2. Such bacteria may retain their capability of growth for an indefinite time, at least 2 months, as shown by the above experiments. 3. Many pathogenic bacteria possess similar capabilities, and it is not unreasonable to assume, although the above experiments are not conclusive upon this point, that transmission of bacterial disease by the thermometer is possible. 4. Thermometers are easily disinfected. 5. Where possible each patient should be possessed of a thermometer, as much his own property, and as sacred to his own use, as his toothbrush. 6. Where for reasons of economy or otherwise it is impossible to carry out the recommendations expressed in conclusion 5, the thermometer should be disinfected before and after using. 7. The custom now prevalent in the hospitals of keeping thermometers in disinfecting solutions is to be commended.

18. **Atypical Pneumonia and Phthisis.**—The importance of an early diagnosis in phthisis is considered, and the statistics as regards the antecedents of pneumonia in this disease discussed. Bergtold believes there are many cases occurring that are diagnosed pneumonia and recognized as tuberculosis only after the malady has declared itself beyond the aid of medicine. He emphasizes the point of being suspicious of any atypical pneumonia, not that he considers all such cases tuberculous, but believes that they are under suspicion. He thinks a more thorough examination of clinical histories and literature would show a larger percentage of atypical pneumonias previous to tuberculosis than is indicated by the data he has given.

19. **Electrolysis in Skin Diseases.**—Wisecup describes the methods employed by him for removal of superfluous hair and other conditions. On account of the variations of individual resistance he does not think the milliampere meter necessary, and advises the use of the smallest possible needle, not too sharp at the point; for the other electrode he allows the patient to hold his fingers in a cup of water, connected with the other pole. The rule he follows is to insert the needle about one-fourth inch into the average hair follicle, but a smaller distance for smaller hairs. Aim to have the needle come in contact with the hair bulb, which can be told by the slight resistance met. Leave the needle inserted until a white froth bubbles around it, but there is danger of leaving it too long and a scab or scar forming. Use preferably a straight needle, as small as possible, without a bulb. Among the diseases which he has treated are nevus, though the common birthmark is unsatisfactory under this head; also moles, cavernous nevus, dilated vessels, cicatricial scar tissue, xanthoma and blackheads.

20. **West Point Neurasthenia.**—Woodruff criticises the course followed at West Point as tending to exhaust the student and to produce neurasthenic conditions in after-service. He remarks that neurasthenia is recognized in the United States as a military disease. The work is three times as much as the human brain can do. The academy must abolish the unwholesome system of rejecting the cadets, who, though very able, are not possessed of an unwholesome and abnormal brightness and quickness. He thinks by retaining them and by shortening the course the academy could supply three times the number of efficient officers it now does. Congressmen could make appointments every two years without increase in the number of cadets.

23.—See abstract in THE JOURNAL of May 11, p. 1338.

26. **Jacksonian Epilepsy.**—In this conclusion of Putnam's article he points out that it is by no means certain that in Jacksonian fits there is a discharge beginning at the point corresponding to the signal symptom. The longer the time during which the seizures due to localized irritation occur, the more widely the brain as a whole becomes involved and the co-operative action of ever-widening areas of the brain may show itself almost from the outbreak. In this case the patient with traumatic or focal epilepsy probably differs but little, if at all, from patients of idiopathic epilepsy. The theory here advocated by Putnam is what he calls the "inhibition" and "formation of new habit" theory which he considers at present the best one available. He believes that the arrest of epilepsy through surgical operation is an affair primarily of inhibition, and next the establishment of a new habit, made possible by the

temporary arrest of the morbid outbreaks. He does not think it necessary to look to a focal lesion for this. The therapeutic problem is how best to secure this inhibitory action and he thinks that possibly as much good can be done by mere exposure of the brain as by incision, or perhaps more. Whatever the operation, in his opinion, it should be considered that the arrest of the symptoms is mainly useful as affording a better opportunity for bromid medication. This part should be taken up energetically. He does not consider it necessary to give the details of bromid treatment, but suggests that the Charcot method, recently recommended by Tourette, of increasing the dose for three weeks, and then dropping to the starting point, and so on, and reinforcing the treatment by every hygienic influence that can be devised, is probably as good as any method.

27. **Prostatic Hypertrophy.**—The conclusions which Horwitz deems himself justified in forming are: 1. Success following the Bottini operation depends on having perfect instruments; a good battery; the necessary skill, and the employment of a proper technique. 2. In suitable cases the Bottini is the safest and best radical operation thus far advised for the relief of prostatic hypertrophy. 3. It is often very efficacious in advanced cases of obstruction as a palliative measure, rendering catheterism easy and painless, relieving spasm; lessening the tendency to constipation, and improving the general health. 4. It is of especial service in the beginning of obstructive symptoms due to hypertrophy of the prostate gland, and may be regarded as a means of preventing catheter life. 5. It is indicated in all forms of hypertrophy except where there is a valvular formation, or where there is an enormous overgrowth of the three lobes, associated with tumor formation giving rise to a pouch, both above and below the prostate gland. 6. Where the bladder is hopelessly damaged, together with a general atheromatous condition of the blood vessels, associated with polyuria, results are negative. 7. Pyelitis is not a contraindication to a resort to the operation. 8. The character of the prostatic growth has no bearing on the results of the operation. The ligation of the internal iliac arteries for the relief of hypertrophy of the prostate gland, first recommended by Bier, has been tried by several surgeons with very unfavorable results. The benefit derived from the operation is slight, and the mortality higher than that following prostatectomy. Thus far, the results derived from angioneurectomy have been negative. I have frequently witnessed the operation of perineal prostatectomy when performed by others, and have on various occasions resorted to it, but I have found that nothing was gained beyond the temporary improvement that might naturally be expected to follow rest and drainage.

29. **Puerperal Insanity.**—Lane's article is largely an argument against the existence of puerperal insanity as a distinct disease and gives a calculation of the number of females of child-bearing age suffering from insanity and the cases of puerperal insanity reported in the Boston Insane Hospital. He finds that the number of cases among child-bearing women are rarer than among women in general at child-bearing age. It would be a good risk to insure a pregnant woman against insanity or at least against commitment for insanity. The latter part of his paper is made up of reports of cases.

30. **Home Treatment of Tuberculosis.**—The advantages of treating tuberculosis at home are that the patient avoids the risk of double radical change and makes his recovery under conditions which can be continued. The influence of familiar surroundings are also to be considered as well as the pecuniary factors. If other things were equal, which they are not, he is inclined to believe the sanatorium treatment in the Rockies or Alps, conducted on the same line as the Dettweiler at Falkenstein, and with the same stage and class of cases, would produce better results than the sanatorium in our home climates, but the majority must, if the hygienic treatment is attempted at all, undertake it near home.

37. **Ear Troubles in Children.**—Yearsley insists on the importance of early recognition of ear troubles, especially deafness, which he thinks should be suspected whenever the child is slow in learning to talk. If it passes its first two years without acquiring a few simple words, it is probably the subject of defective hearing. Pains in the ears in a child may be very variable, but it is most important to know the condition. If the general practitioner who is first to see the case, can exclude or diagnose ear disease, he will have the satisfaction of saving the patient much possible future suffering and himself much annoyance.

38. **Thermol.**—This drug, which has its chemical composition $(C_{14} H_{15} No_3)$, is recognized by Rosenthal in combination with other drugs as an antipyretic in fevers of children. He thinks we have in it a perfectly safe antipyretic of known value with also hypnotic and analgesic powers.

45. **Angiosarcoma of the Brain.**—After first considering the indefiniteness of pathologic symptoms in cases of brain tumor, Perkins reports a case in which the diagnosis of angiosarcoma could be definitely made but in which no trace of special connections with blood vessels, either endothelial or epithelial could be made out. The diagnosis of cerebral tumor was made from the usual symptoms. The autopsy revealed a growth of the right frontal lobe without metastases, which microscopically, from the character and arrangement of tumor cells, their lack of processes, the minimal amount of stroma and sharply defined limitations from the brain substance, resembled sarcoma; the abundance of vessels throughout the mass, suggesting angiosarcoma in the absence of infiltration; lack of nerve cells, apparent absence of glia fibers, were against the diagnosis of glioma. He concludes his paper with remarks on the nomenclature of brain tumors and a brief review of the opinions of others.

46. **Epilepsy.**—The morbid anatomy of epilepsy as illustrated by 130 autopsies is discussed by Ohlmacher. The findings seem to him to justify his elsewhere expressed opinion as to the close association between this nervous symptom and the peculiar condition known as the lymphatic constitution or lymphatism. He, however, says that one must not expect to find a complete picture of lymphatism, with the persistent hyperplastic thymus, general lymphadenoid hyperplasia, and arterial hyperplasia is not to be found in these conditions, as a rule, for it occurs only in children or young adults. In older persons or those dying of wasting diseases or epileptic exhaustion the evidences of lymphatism are masked and seen only in such ineradicable features as narrowed arteries or the osseous deformities of rickets. Of 71 cases classified as idiopathic and lymphatic epileptics a goodly number proved typical examples. The predominant brain change accompanying this class of cases is a gliosis of the cerebrum taking the form of diffuse superficial cerebral gliosis either hypertrophic or atrophic or a localized sclerosis affecting certain parts, particularly the horns of Ammon and the hipocampal gyri. He is inclined to the opinion that this is in some way related to intracranial pressure and it is pretty well established that lymphatism is one of the consequences of rickets and we may come to rickets as the ultimate basis of epilepsy and allied nervous disorders. If this be the case, the problem of dealing with idiopathic epilepsy resolves itself into one of the combating infantile rickets, which is probably a nutritious and infectious disorder, preventable by proper dietary and hygienic precautions in infancy. The other class were those of infantile cerebral paralysis, which amounted to 15 per cent. of the whole, the senile epilepsy, represented by 8 cases, showing brain lesions or other localized arterial gliosis from arterial sclerosis of the cerebral arteries or foci of cerebral softening. There were 6 cases of senile epilepsy, or 5 per cent., 3 of cardiac epilepsy, connected with advanced cardiac changes which are supposed to be of direct causal relation, 2 of paralytic dementia, 1 each of alcoholic and uremic epilepsy, and 1 due to cerebral tumor, a cystic glioma of cerebrum.

51. **Ideals in Appendicitis.**—The ideals in appendicitis operations are, according to Scott, a model patient, who must be of high intelligence and in good physical condition, and an appendix with a reasonably long mesentery allowing free motion; the disease should be limited to the structures beneath the peritoneum and at the stage not yet threatening rupture. The adipose tissue of the abdominal wall should be thin and the fascia well developed. The surroundings should be such as to insure aseptic operation with all that this implies. This

is best secured in well-appointed hospitals, and a nurse that understands the ideals to be attained and the methods of achievement. Lastly, the surgeon should be a keen diagnostician and careful even to the smallest details, must have not only a good surgical ability, but added to this, dexterity and experience, so that he can perform the operation through the smallest possible incision. When all these requisites have been obtained, the traumatism of the internal parts will be limited to a mere dimple upon the head of the colon; there will be no free raw surface to form adhesions, and no necessity of absolute quiet of the intestine for the purpose of repair in aseptic operations. The only active factor to be considered is traumatism of the abdominal wall. The rapidity of the convalescence is inversely proportional to the length of the incision in the fascia, which in these favorable cases will not be over three-fourths, perhaps not over one-half inch, the elasticity of the parts being such that it is possible to introduce the finger through the dilated incision. An illustration of these ideals he gives in his own case in which he was operated upon, leaving the hospital after four and one-half days; on the sixth day he made his hospital round, transacted business and called upon his physician.

59. **Occlusion of Duodenum.**—Cordes reports a case, the fifty-seventh, according to her researches in the literature, of congenital occlusion of the duodenum, and tabulates all the cases she has found. She discusses the symptoms and says that, whatever may be said in regard to stricture of the intestine in other regions, it seems clear that volvulus and fetal peritonitis can not explain the large number of cases of occlusion of the duodenum. A number of facts, such as the repeated occurrence of this occlusion near the site of the papilla, the existence in probably more than one case of anomalies of the duct system, the absence of Brunner's glands in one case and the striking absence of any sign of disease to which the condition is traceable and other malformations than that of the duodenum in a certain number of cases, lead her to think that an error of development not yet explained may underlie this condition.

60.—This article was abstracted in THE JOURNAL of March 2, p. 592.

74. **Bullet Wound of the Spine.**—The case reported by Sailer is that of a man struck four years ago by a Mauser bullet which passed through the spinal cord in the lumbar and sacral region. There was immediate paraplegia and some years later severe fulgurant pains in the limbs. To relieve the latter, laminectomy was performed and a greatly thickened dura was incised; the operation gave great relief. Subsequently some improvement occurred and finally there was only total anesthesia and paralysis of the right limb and lower portion of the right thigh, and total anesthesia of the left foot, movement at both hip joints and left knee joint and slight improvement of the left foot and toes; total anesthesia over the sacral area, and hyperthesia of the perineal region. Sexual reflexes of the patient were only partially impaired. The interesting features of the case are the localization of injury of the spinal cord, the satisfactory results of operation three years after receipt of injury, and a curious sensory phenomenon (allochiria) shortly after the operation, while improvement was in progress. The localization in the cord is discussed at length with considerations bearing on the physiologic centers. He is certain that the anterior cornu, or the anterior root proceeding from it, was intact on the right side of the level of the first lumbar segment. The bullet probably entered about the level of the lower portion of the second lumbar segment, involving the third and fourth and possibly the fifth lumbar segments, but not the first sacral, or any of the segments below it on the right side. On the left side the first, second and third lumbar segments were certainly intact, as shown by muscular innervation, the fourth lumbar segment was partially involved, and the fifth probably totally destroyed. A study of the sensory areas also bears out this diagnosis. There is probably hemorrhage in the central portion giving rise to disassociation of sensations. The allochiria mentioned was observed thirty-nine days after operation and lasted about three days.

75. **Subjective Healing.**—Baker discusses the fads of subjective healing and suggests that we should consider the human invalid not the mere victim of a special affection, but study the entire individual in the diagnosis. A consideration of these facts shows the uselessness of wearing people out with drugs and cultivating too much dependence on them. It also shows the dangers of extreme concentration of a purely subjective order and the psychical elation which has not been given solid basis to sustain it. The "healer" often seems to make a good start in the right direction with the individual, but soon fails from lack of knowledge of physiology and pathology. Unless the body has been remedied and the mind furnished and steadied, and conduct ordered in accordance with actual needs, no cure worthy of the name can be expected from either materialist or idealist. The neurologist and psychologist should determine how far results which are now secured haphazard can be obtained by proper scientific practice. People, especially when young, should be encouraged to most sedulously cultivate bodily endurance, mental growth and freedom, and spiritual self-reliance, faith in inductive science, rather than trust in dogmatic deduction, with the hope that where now there is such readiness to develop morbid introspection and flaccidity of the mind a better state can be produced.

83. **Oral Neuroses.**—The conditions described under this head by Goodale is divided by him into the following: 1, herpes zoster; 2, herpes buccalis and lingualis; herpes facialis; erythema exsudativum multiforme, or bullosum; 3, erythyema nodosum; purpura rheumatica; 4. stomatitis neurotica chronica of Jacobi; 5, dermatitis herpetiformis of Duhring (of doubtful position); 6, pemphigus. Of the above conditions the herpes forms, erythema nodosum and purpura rheumatica are all defined clearly, but with the erythema bullosum, dermatitis herpetiformis and stomatitis neurotica chronica much confusion exists. Erythema bullosum is an angioneurotic inflammation, generally afebrile, is characterized by eruptions of one or more vesicles upon a hyperemic basis, without characteristic grouping, enlarging rapidly by peripheral extension; it forms bullæ of one or two centimeters in diameter, the contents of which are at first clear, later cloudy, and evacuated by maceration and rupture of their epithelial covering, leaving a moderately sore, but not spontaneously painful base, which heals in from one to four weeks without a scar. Dermatitis herpetiformis is a chronic, probably infectious condition characterized by more or less general eruption upon the skin and mucous membrane of lesions of multiform type, with pronounced burning or itching sensations and having a protracted course with temporary exacerbations and remissions, and little existing disturbance. Stomatitis neurotica chronica is a chronic, afebrile affection, occurring generally in neurasthenics and characterized by more or less general outbreak of bullæ upon the oral and lingual mucous membrane preceded at times by local reddening, somewhat painful, not pruritic, and various symptoms of nervous disturbance. Pemphigus is a term applied to various forms, probably infectious and distinct, but differing in their etiology and having a common characteristic eruption of clear non-purulent bullæ on an unreddened or very slightly reddened skin or mucous membrane, in regular sequence, without angiogenic form, characteristic grouping, distribution or localization, with little or no local subjective symptoms and having an acute onset and tendency to recurrence and generally attended with marked disturbance of the general health. These characteristics given above may be regarded as representative type forms, but another source of confusion is the various meaning attached to the term herpes, pemphigus, etc. The rest of his paper is given up to a description of the herpes, erythema, and other disorders of the mouth.

94. **Malignant Disease of the Breast.**—Warren's article describes the condition and Halsted's operation for its relief. As regards the results he thinks that if examination shows no recurrence within three years the cure may be regarded as certain. Taking the average results of the present time, he says, we are safe in assuming that a cure can be affected in at least 30 per cent. of the cases operated upon, though this percentage depends upon the class of cases selected. There is a type of cases which almost always may be regarded as favor-

able, that is, those which have been under observation for several months and have made no progress. In nearly all cases of cure in his experience the microscopist has given a diagnosis of scirrhus cancer. The question whether we should try a post-operative treatment to prevent recurrence is mentioned and he suggests the use of mammary extract as possibly producing a soil antagonistic to the return of the disease. He has not yet, however, enough experience to express a definite opinion as to its value. He has seen improvement in reabsorption of recurrent nodules from the use of the thyroid extract and he says, however, as regards the subcutaneous use of alcohol and pyoktanin that we should bear in mind that cancer nodules may disappear spontaneously.

104.—This article has appeared elsewhere. See abstract in The Journal of April 6, No. 79, p. 995.

114. **Human Tails.**—The reported cases of caudal appendages in man comprises a most heterogeneous class. Anything appended to the sacral or coccygeal region is described as tails. There are, however, a great many cases, Harrison says, in which the anatomical relations are such as to indicate that the growth owes its existence to the persistence of at least part of the vestigial tail found in the human embryo. The case he reports appears to be such a one. The subject generally is discussed at length and the way in which the abnormality appears is theorized out. He concludes with Keibel that while as far as outward form is concerned the embryologic tail disappears, largely as a result of growth of the extremities and gluteal region, a certain amount of regressive change takes place in the caudal appendix itself. This is evident not only in the absorption of the caudal filament but also in the reduction of all the bone structures of the vertebral portion of the tail, that is, the vertebræ, muscles, segments of spinal ganglia and blood vessels. In this tendency to reduction the resemblance between human and mammalian tails also holds. The soft or boneless tails are clearly not due to multiplication of vertebræ or to the persistence of all which are developed in the vertebræ, but, as he first suggested, are to be regarded as persistent caudal filaments.

116. **Bilateral Relation of the Cerebral Cortex.**—Mellus reports experiments made by removal of portions of the cortex in the monkey, observing the functional lesions and studying the lateral degenerative processes. The most striking feature is the large number of degenerated fibers passing from the cortical lesions over the middle line in the corpus callosum and down the internal capsule of the opposite side. With the exception of those fibers going to the superior temporal convolution of the opposite side, the fibers in this experiment all pass into the thalamus. In a few animals in which practically the same area was extirpated some of the degenerated fibers found in the internal capsule of the opposite side can be followed through the pons and medulla into the cervical region of the cord, where they disappear. From this he concludes that a vast number of the projection fibers arising in the motor cortex end in the thalamus and especially those of the area in which more or less bilateral movements are represented. These movements are mostly facial, and he thinks this has some bearing on the function of the thalamus. It has been suggested that the thalamus is the center for reflex or emotional movements, and the facts here stated may explain the play of the features as the result of emotion when voluntary movement is impossible. In many extensive lesions of the internal capsule fibers passing into the thalamus, even on the side of the lesion, might easily escape injury, even if bilateral control of the thalamus were improbable. The presence of degenerate fibers in the lateral geniculate bodies in this case is suggested to be possibly due to these having the function of voluntary inhibition of certain visual reflexes.

120. **Nuclei Pontis.**—The summary of Long's article on the development of the nuclei pontis is given as follows: "The main nucleus pontis is situated on the central surface of the rhombencephalon at the level of the pontal flexure. In the specimens the nuclei pontis are first seen on the surface and in the ventral part of the mantle layer of the lateral part of the pons Varolii. In the second embryo the nucleus pontis ventralis extends across the middle line of the rhombencephalon and the nuclei pontis dorsales are separated from its lateral part by the ventral fiber bundle. The nuclei pontis dorsales next form two solid masses, reaching almost to the middle line. They are still separated by the ventral fiber bundle from the nucleus pontis ventralis, except at extreme lateral ends, where they are continuous with each other. Next the nucleus pontis becomes a solid shell on the ventral surface cut by a small branch from the ventral fiber bundle. After the sixth month the pons consists mainly of fibers and scattered groups of cells, which increase at the expense of the dorsal part of the nuclei while a narrow ventral nucleus or cell-mass is left on the surface.

121. **The Gall-Bladder.**—Sudler's article is chiefly devoted to a description of the lymphatic and finer blood-supply of the gall-bladder, described in detail.

123. **Liver Lymphatics.**—From the observations here reported, Mall concludes that: 1. The lymphatics of the liver arise from the perilobular lymph spaces and that these communicate directly with the perivascular lymph spaces. 2. That the lymph reaches these spaces by a process of filtration through openings which are normally present in the capillary walls of the liver. Furthermore, the fluid injected into the lymphatics from the bile duct leaves the duct as it enters the lobule and is at once taken up by the lymph radicals and perilobular lymph spaces, and from them extends, as a secondary injection, to the perivascular lymph spaces, and often into the blood capillaries of the lobule. The larger lymphatics accompanying the portal vein arise between the lobules near their bases, while those accompanying the hepatic vein do not arise within the lobule but around the larger sublobular veins.

139. **Spectacles.**—This article is of interest as giving the views of an optician in regard to the fitting of spectacles. Meyer mentions the harm coming from patients trying to fit themselves, and thinks that even few physicians and oculists realize the importance of the careful filling of their prescriptions, not only as regards perfect lenses ordered, but also the making of the frames and adjusting them to the correct position before the eye. The distress produced by inaccurately adjusted lenses, he says, is unappreciated by those who have not felt it. He gives an instance of a lady who traveled 100 miles to her oculist, suffering with headache and gastric disturbance, and was completely relieved by the prescription: "Reduce the angle of the glasses 5 degrees." The fact that the glasses tilted a few degrees more than they should gave the effect probably of a cylinder in the longitudinal meridian, producing an astigmatic effect, which she did not naturally have. He says that opticians usually do not charge for adjusting glasses when they get out of shape, as it takes only a few seconds of their time, but are amply repaid in the expression of satisfaction of those that have received the benefit. He also discusses the peculiarities of the optician's patient and believes that the average tradesman in dealing with them would consider them all cranks. The skill of the optician in meeting the demands of these is the secret of his success.

141. **Asthma.**—Jack considers asthma not a disease by itself, only a symptom of an abnormal biochemical and complex pathologic process originating usually in the intestinal canal, with long-standing indigestion, toxemia, faulty absorption, metabolism producing toxemia of lymphagenous chyle that generates an unstable blood, characterized by extremely numerous and alarming paroxysmal morphologic changes, often alternating between lymphocytosis and intestinal toxemia leucocytosis, or marked anemia; the affection is accompanied anatomically by hyperplasia of the lymphatic and glandular structures and clinically by a most wretched and agonizing dyspnea. The characteristic pathologic feature of asthma is the unstableness of its blood. The main part of his article is given to describing the different forms of asthmatic conditions, such as asthmatic lymphocytosis, intestinal toxemic leucocytosis and anemia.

154. **Rectal Prolapse.**—This article describes the method of treatment of complete rectal prolapse of the first and second degrees, when the prolapse is due to alteration in the passive supports of the lower portion of the rectum. After preparing

the patient by cleaning out the bowels, syringing the parts, and asepsis, the prolapse is drawn down and measured. While it is down the semicircular incision is made midway between the anus and coccyx and carried between the muscles of the levator ani until the retrorectal space is reached. With the finger or a pair of blunt scissors the rectum is then separated from the sacrum as high up as the distance which it protrudes from the anus. With the dull curette the fatty or cellular tissues are scraped off the anterior surface of the sacrum and the prolapse then reduced. The assistant's finger carried through the anus inverts the gut, bringing it out between the incision made between the anus and sacrum to the same extent as the prolapse. While held in this position and flattened out long silkworm gut sutures are passed from its muscular walls from one side to the other, one above the other, and transversely. The only precaution necessary is to not carry them deep enough to involve the mucous membrane while introducing them. However, the external cellular tissue should be removed. The sutures are placed about one-half an inch apart until the whole protrusion is covered, the ends being left loose. After all the sutures necessary have been introduced, each end of the higher suture is threaded with a long curved needle, which is carried upward through the division between the sacrum and rectum and brought out at the highest point of this cavity through the ligaments and fascia upon one side of the sacrum. The other is dealt with in like manner, and the lower sutures in succeeding order are also carried up through the wound and brought out at lower levels until they all have been so treated. When these sutures are made taut they will carry the rectum upward and holding it in apposition with the fresh surface edges in normal position. If it can be held here until the normal tone of the muscular supports below has been restored the cure will be permanent. The sutures are brought across the sacrum over a strip of iodoform gauze laid upon the skin in order to prevent the threads cutting into it, and left for ten days or longer. After these have been thus tied, the sphincter muscle is much relaxed; it is well to pass a kangaroo tendon around the rectum just above the margin of the external sphincter, entering it in the original wound and sutured in the same wound. After this is done the wound is closed with a chromicized catgut suture for the muscles and plain catgut or silkworm for the skin. Cases operated upon in this way have been observed for three years. Five out of the nine were old and very chronic cases, one having existed for eighteen years, and with one exception there have been no symptoms of recurrence. When prolapse occurs high up in the peritoneal portions of the rectum an abdominal sigmoidopexy is advisable and he describes the operation.

155. **Resection of Vena Dorsalis Penis.**—Lydston criticises those who have claimed to have cured patients of impotence from ligation of this vessel, and thinks we would have probably better results from its resection and that this ligation as a rule has nothing to do with the brilliant results thus reported.

FOREIGN.

British Medical Journal, June 8.

Skiagraphy and Fractures: Especially in Their Medicolegal Relation. C. H. Golding-Bird.—After first mentioning the dangers of the popular misuse of the X-ray, Golding-Bird discusses the subject from the surgeon's point of view. While no one will question the value of the method in the diagnosis, its use is unnecessary in the larger proportion of cases one is called upon to treat, yet there is a certain class of doubtful cases where it is most desirable. These are of two kinds, one in which though certain of fracture, there is a doubt as to the exact locality, its direction, or perhaps its involvement of a joint. The other, where the existence of fracture is doubtful, and while this doubt may not necessarily modify the line of treatment, yet should the patient get skiagraphed on his own account, and be able to demonstrate a fracture, a suit for malpractice might arise or other embarrassment to the surgeon. Of this second class, fractures of the fibula and vertical or transverse fractures anywhere and certain forms of fractures around the hip are examples. Thus, he mentions Pott's fracture, which may occur without characteristic deformity and be diagnosed as severe sprain. A vertical fracture involving the knee-joint, a purely transverse fracture without displacement, notably in the lower end of the tibia in which the patient is still able to stand and impacted fractures of the hip are hard to be certain of. Patients, moreover, especially private ones, insist on positive knowledge of the state of their bones after injury. People have a morbid dread of bone injuries and great comfort may be given by the mere assurance that the bone is not injured. Therefore, the skiagraph may be very useful as a diagnostic evidence to the surgeon to satisfy his patient. It would be a bad thing if the diagnosis were relegated entirely to this method, and over-reliance upon it is also to be deprecated. It is only as a subsidiary generally that the skiagraph should be employed, and even then its evidence should be received with caution, and only after due interpretation by someone whose experience warrants his speaking with authority. Another use of the X-ray is to judge the results of one's handiwork and Golding-Bird thinks this is rather unreliable. The laity, and often some physicians, have a very poor idea of the actual conditions even of successful cases of simple fracture. Functional performance may be perfect and yet the X-ray show a decided deformity. The skiagraphs show that in order to satisfy esthetic requirements almost every case should be operated upon and the bones adapted by screws, wires or by some other means. If the final appeal is not to utility, but to the beauty of the bone scar, then every case must be thus treated. Before deciding upon the value of the skiagraph, we must inquire whether it really represents things as they really are, and this is a further argument against employing it as a critic of a surgeon's work. He asks, can skiagraphs show fracture where none exists, and answers, that it can. Epiphyseal lines on the long bones, the end of the ulner for example, have been mistaken for fractures. Impacted fracture of the neck of the thigh can be imitated by taking a foreshortened view. Fracture through the base of the olecranon is simulated always where the light is directly over the bend of the elbow, the plate being posterior. The band of light is due to the rays penetrating the joint; a lateral skiagraph destroys the illusion. The acromio-clavicular joint resembles a fracture and has been mistaken for such. The appearance of gradual thickening of the bone can be produced at will. He is indebted for these and other references to the report of the American Surgical Association on the medicolegal relations of the X-ray, in the *American Journal of Medical Sciences*, for July, 1900. The second question: Is it possible to miss seeing a fracture? Yes; though rarely. Usually it is recognized by irregularity of the bone outline, but where this is not easily seen, attention to the outline of the medullary cavity generally shows it. In the ribs, especially the lower ones, because of the shadow of viscera, in the spine between the fourth and twelfth vertebræ, because of mediastinal structures, fractures may be overlooked. In the ends of very young bones centers of ossification may be mistaken for detached bone or vice versa. Anatomical depth, as in the hip, has caused trouble in recognizing fractures. The base of the skull is hardly likely to receive aid from the skiagraph. Is it possible to show fracture as still existing, though long united? He states that it is. Early callus will not show, and for the first three months the unpracticed observer might not see it distinctly. Similarly the line of union will seem to be one of separation. Can distortion be produced? Yes; by foreshortening. The appearance of gradual expansion of the bone can easily be produced by want of parallelism between the plate and limb and may be read as indicating injury. Looking at the subject from the patient's point of view the question of X-ray and fracture becomes a very serious one. It is not possible to prevent the use of the X-ray by a patient; therefore, instead of awaiting the attack, the surgeon should disarm suspicion first. He should be told, moreover, that the new photography is no measure of the cure, that the setting of fractures is not a piece of accurate cabinet-work; the people should be instructed in the uncertain indications that skiagraphy gives. The lawyer should learn that it is not a reliable witness. It can not stand alone even for everyday practice or diagnosis, still less can its testimony be invoked for the defense or attack in a court of law.

British Medical Journal, June 15.

Hepatic Inadequacy and Its Relation to Irregular Gout. I. Burney Yeo.—The subject of irregular gout is treated by Yeo, putting the common forms under the general head of hepatic inadequacy. The author begins by defining hepatic inadequacy, by which he means special disturbance of the function of the liver, which while stopping short of giving rise to what are generally known and accepted as diseases of the liver, lead yet to impairment of general health. In this way, he thinks, arise almost all those cases which are known as irregular gout. The uric acid theory he finds inadequate and he calls attention to the fact, as he says, that physiologic and chemical research is not always as helpful to clinical medicine as it might be, unless it is carried out in what may be called a clinical spirit without dogmatically imposing its conclusions on physiology. As instance of the failure of such research to aid the physician he calls attention to the condemnation of calomel as a cholagogue by the Edinburgh committee some years ago and shows that the practice of medicine has rejected that conclusion. Another point is the condemnation of the use of sodium salts and alkalines in the treatment of gout and the gouty state which has led to another series of practical mistakes. He quotes especially H. M. Lyman as supporting this view, that the alkalies and sodium salts are of value in the gouty states. In answer to the question what symptoms are referable to hepatic inadequacy presented by patients with irregular gout he mentions the following: In the first place the feces are often pale, from the absence of bile-coloring matter, and often very offensive. There is frequently constipation, but there may be diarrhea, and some liver enlargement, with tenderness, muddy complexion, yellowish conjunctiva and a sweet-bitter taste in the mouth with loss of appetite. The urine is highly colored and often of high specific gravity, and usually extremely acid. On boiling and adding nitric acid, various shades of mahogany color are developed and in some cases the urine looks almost as black as ink. This is very common in the gouty state. It is also commonly found in functional and malignant hepatic disease. There is another type of hepatic inadequacy, which he calls the liver of the seaside, which is hard to explain, but is observed in seaside resorts, and is relieved by change of residence. He believes that some subtle influence exists, checking the activity of the bile cells, and thus develops hepatic inadequacy. He mentions other facts which bear out this idea. There are physiologic reasons as well as clinical for incriminating the liver in the production of the gouty state. The liver is specially concerned in the metabolism of carbohydrates—its glycogenic function,—and also in the metabolism of nitrogenous material and in the formation of urea and uric acid. In the gouty the glycogenic function is often disturbed and restored by alkaline medication, and he asks, is it not reasonable to believe that another function of the liver carried on side by side with this one is also prone to be disturbed? He also finds the production of the bile disturbed in the gouty. As regards the diet of these cases he does not find a vegetable diet specially applicable, but he has seen great improvement with the exclusive or nearly exclusive diet of pounded meat and full draughts of hot water. It is the simplest diet that can be made and this is the principle which he thinks should be followed. The extremely simple food, limited in amount, causing digestive ease, means also freedom from goutiness. Nature finds some mischief still for idle food to do, paraphrasing Dr. Watts. There is much also in the quality and cooking of the food; often more than in the kind. There is a general impression that gouty people do not take enough exercise. That is not his experience. Excessive muscular activity leads to excess in food and then trouble comes. The advice to shake up the liver is bad.

On the Protection from Water-borne Disease Afforded by the Pasteur Chamberland and Berkefeld Filters. W. H. Horrocks.—Experiments with the Berkefeld and Chamberland filters are detailed by Horrocks, who sums up his conclusions as follows: "1. Typhoid bacilli are not able to grow through the walls of a Pasteur-Chamberland candle, and if proper care be taken to prevent the direct passage of the bacilli, through flaws in the material or imperfections in the fittings, the Pasteur-Chamberland filter ought to give complete protection from water-borne enteric fever 2. Typhoid bacilli can grow through the walls of Berkefeld candles, probably owing to the larger size of the lacunar spaces and the consequently diminished immobilizing and devitalizing influences. The time required for the typhoid bacilli to traverse a candle varies between four and eleven days, and appears to be largely dependent on the nutriment supplied to the organisms by the medium in which they exist. In order to obtain complete protection from water-borne enteric fever, when employing Berkefeld filters, it is necessary to sterilize the candles in boiling water every third day."

The Lancet, June 8.

An Explanation of the Vulnerability of the Apices in Tuberculosis of the Lungs. E. H. Colbeck and Eric Pritchard.—The vulnerability of the apices to tuberculosis is discussed at length by the authors, who find that according to their deductions, it is largely determined by alteration in the shape of the chest in conjunction with deformity or thinning of the musculature of the shoulder girdle. Woods-Hutchinson, who has worked at the subject from the side of comparative morphology and pathology,, expresses similar views. The importance of alterations in the shape of the chest and the abnormal condition of the shoulder girdle lies in the modification which these changes induce in the dynamic relations of the superior aperture of the thorax, whereby the movements of the apices become inverted in their relations to normal respiratory rhythm. It is this altered dynamic relation that furnishes the conditions which favors the lodgment of extraneous matter in the upper lobes of the lungs. The exact position of the site of the deposit is determined largely by the distance the apex rises above the border of the first rib, inasmuch as it is this extra-thoracic portion of lung which is acted upon by the forces that give rise to inverted movement. Since the apex rises from one inch to one and one-half inches above the border at the first rib, they conclude that the site of the deposit will be situated from one inch to one and one-half inches above the summit of the lung. This same method of reasoning probably explains proclivity to tuberculous disease of the basal lobe of the lung in cattle, which is also likely due to mechanical causes. The practical bearing of the theory is the enormous importance of developing the muscles of the shoulder girdle with the object of pulling the chest into shape, as Woods-Hutchinson puts it. To this end tree-climbing, ball-throwing, horizontal ladder and bar exercise and any muscular exercise should be sedulously and systematically carried out. The authors suggest that the subject is pertinent also to explain other abnormal conditions in the apex and call attention to development of emphysema in this situation.

Annales de Dermatologie (Paris), May.

Disseminated Gangrene of the Skin in Children. A. Veillon.—A case is described and illustrated which proves that disseminated gangrene of the skin in children is not an isolated affection. From a clinical as well as a pathogenic point of view, the disease should be classed with true gangrene, and bacteriology reveals that it is due to the proliferation in the tissues of strictly anaerobic microbes, and is hence, a mortification in the tissues with a special fermentation, besides the necrobiosis. The writer has found the bacillus ramosus in all the cases of gangrene he has examined; in the present case it was associated with the staphylococcus.

Persisting Syphilitic Lesions Despite Intense Mercurialization. H. Hallopeau.—Syphilitic lesions on the soles of the feet or the palms of the hands are peculiarly rebellious to specific treatment, both general and local. Hallopeau describes a case and points out that the differences in structure of the skin in various parts of the body should be borne in mind in attempting to explain the pathogenesis of its alterations. In these cases the outer layer of the skin is so dense that the mercury and iodin applied locally or brought in the circulation, are unable to penetrate the multiple rows of cells, and thus fail to reach the infectious elements in the epidermis.

Archives Gen. de Medecine (Paris), May.

Grippal Cerebrospinal Meningitis. E. Sacquépée.—The analogy is so close between the clinical picture of epidemic and grippal cerebrospinal meningitis that they can be differentiated only by bacteriologic examination. The lesions seem to be identical in nature and degree, but the grippal affection is apparently a milder infection. Six out of nine patients observed by Sacquépée recovered. Lumbar puncture had an unmistakably favorable effect on the course of the disease, and sodium salicylate and quinin also proved useful.

Bulletin Medical (Paris), May 25.

Pathogenesis of Floating Kidney. M. T. Rosenthal.—The displacement of the organ is not the essential cause of the disturbances in case of floating kidney, but rather a primary congestion of the organ. The digestive troubles are due to the congested and hence enlarged organ. This congestion is especially liable to occur in arthritic subjects, even in the absence of enteroptosis. The oppression and pains always appear in the two or three days preceding menstruation. In patients with insufficient menstruation the pains persist during the entire period and may outlast it. Another cause of floating kidney is an accidental displacement or luxation caused by some unusual exertion, such as lifting a heavy weight, an effort to stand on the tips of the toes or a fall on the feet. Nephropexy fails to relieve many of these cases as the recurring congestion is the real cause of the trouble. Massage is the only rational and successful method of treating it, commencing at the lower pole of the kidney and working upward. A cold compress is kept on all night, with an abdominal band during the day. Twenty to forty-five séances are usually required. The first few are liable to be painful, and should last only five or six minutes. By the twelfth séance all pain and the dragging sensation are entirely banished.

Journal de Physiologie (Paris), March.

Technique of Thyroid Grafts. H. Cristiani.—The secret of success in transplanting the thyroid gland is to graft it in a number of long, flat pieces, not entire. These grafts heal in place and continue to develop normally, whether implanted in the peritoneum, abdominal wall, skin of back or front of thorax. Cristiani states that his attempts have been invariably successful and in a large variety of mammals.

Serum Treatment of Glanders in Man. A. Dupuy.—A single case is reported. The patient left the hospital cured in six months, after thirteen subcutaneous injections of 20 c.c. of normal beef serum in the first three weeks of the disease.

Revue Hebd. de Laryngologie (Bordeaux), May 25.

Pathogenesis and Treatment of Nasal Hydrorrhea. Brindel.—Microscopic examination of the nasal mucosa in cases of spasmodic coryza with nasal hydrorrhea, shows an accumulation of round cells, epithelial desquamation, multiplication of the blood vessels and great dilatation of the veins. These changes are accompanied by extravasation of the blood in the mucosa and transudation of the serum through the meshes of the connective tissue. The hydrorrhea is therefore a kind of edema with immediate excretion of the extravasated fluid. The mucosa becomes more or less degenerated and the most favorable treatment is by single or double turbinotomy. No glands are visible in the tissues removed, in four-fifths of the cases. Brindel has recently treated a case in which the tissues removed by the turbinotomy were tubercular, showing that a primary, non-ulcerative tuberculosis of the nasal fossa may deceptively simulate spasmodic coryza with hydrorrhea and may be cured with the same treatment, that is, partial turbinotomy.

Revue de Gynecologie (Paris), March-April.

Surgical Perforation of the Uterus. P. Rebreyend.—The progress of modern surgery enables us to view instrumental perforations with considerable equanimity now-a-days. Simple puncture does not require operative treatment, but an actual wound demands immediate repair. This should always be done through the abdomen. The uterus should not be sacrificed except in case of irreparable lesions, or for some cause foreign to the perforation. Fourteen instances of perforation of the uterus are tabulated, with three deaths. In Stickney's case, a supposed tumor was punctured twice but proved to be merely the gravid uterus, with delivery imminent and normal. Pinard has published a case in which he punctured for a supposed tumor, finding later that it was a case of twin pregnancy with dropsy of one fetus, born later macerated. Twenty liters of fluid were removed by Tillaux from the uterus at the sixth month of pregnancy in another twin pregnancy. Mackenrodt produced a perforation by traction, Zinke with the curette. The latter healed after tamponing.

Primary Malignant Disease of Fallopian Tube. A. Boursier.—In the 38 cases collected a malignant deciduoma was found in one case, sarcoma in 5 cases and primary epithelioma in 32. The majority of the patients were between 45 and 50, none over 60 or under 40. There is no connection evident between the menopause or menstrual disturbances and the development of the tumor. Sterility was frequently noted; 7 patients had borne one child twenty to twenty-three years previously; 3 were III-parae and the others had had one or two abortions. Evidences of preceding inflammation were noted in some cases. There is no pathognomonic sign, but the tube is usually more or less round; the size depends on the amount of fluid accumulated in it. In the personal case described the tumor had been noticed for three years. It caused at first merely hypogastric pains and a watery, blood-stained discharge from the uterus, not interfering with active occupation until late in the disease. The tumor was noticed for one to three or four years in most cases, but Tuffier's patient required operation in two months after the first symptoms, Cullingworth's within four months, and Watkins' in fourteen days. The latter patient had a fibromatous uterus and each tube contained a malignant papilloma. The sero-sanguinolent vaginal discharge is continuous if the uterine ostium is permeable, and intermittent if only permeable when the fluid attains a certain pressure. If the pains subside and the tumor diminishes in size as the discharge continues, it is evident that a pocket in the tube is being emptied. But if these signs occur in a woman between 45 and 50, whose strength has been failing, they suggest the possibility of a malignant neoplasm. There is nothing characteristic about the ascites, but in case the abdominal ostium is permeable, the fluid may escape directly into the peritoneal cavity unless it is walled off around the tube. In this case a pocket will form, and in this the "salpingian vomica" will accumulate. None of the cases on record were correctly diagnosed. Veit's patient is in good health seven years, Tuffier's and the writer's, one year, and Fearne's nineteen months after operation. In all the other cases the disease recurred, and the patients succumbed. The tumor remains inclosed in the tube for a long time and hence extirpation is comparatively easy.

Congenital Polycystic Kidney. Brouha.—There is evidently some primary malformation as the basis of these cases, the non-coalition of the two halves, supplemented by retention of fluid secreted or transuded into the cavity of the secretory portion of the kidney. Study of a number of cases of congenital polycystic kidney has demonstrated that the secretion of urine in the fetus is by no means as insignificant as generally assumed, and that it is an important factor in the genesis of this condition.

Revue de Medecine (Paris), May.

Epidemic Character of Essential Zona. C. Dopter.—Three cases of zona occurring in the inmates of a certain room, confirm Dopter's theory that a primary infection alone is epidemic, but the infection may attain, naturally or by acquisition, an elective affinity for a certain segment of the spinal cord, with whose nutrition it interferes in the various organisms infected simultaneously or in turn.

Malarial Polyneuritis. Boinet.—Paraplegia and atrophy followed a stage of dull and later, acute pain in the legs in the case described. The atrophy was more marked on the left

The anesthetic zones corresponded to the segmental distribution of nerves; the plantar reflex was exaggerated, other reflexes diminished. No vasomotor disturbances were noticed. Electrotherapy is useful in these cases, with hydrotherapy, iron and iron cacodylate. Quinin is useless except in acute malaria.

Semaine Medicale (Paris), June 5.

Early Signs of Puerperal Phlebitis. A. Boissard.—The variability in the appearance, course and termination of these venous affections has convinced Boissard that they are due to different or associated infectious agents and not to the streptococcus alone. Puerperal phlebitis is increasing, and it is more frequent in private than in hospital practice. It has occurred in 16 cases in the writer's experience of 4000 accouchements at the Tenon hospital. One leg was affected in 12 cases and both legs were involved in 4. In 6 instances the phlebitis appeared between the third and the eighth day, and in 10 between the twelfth and the twenty-first. The patients were febrile at the moment of delivery in the 6 cases in which the phlebitis appeared during the first week. In 5 cases the phlebitis developed after a physiologic puerperium with no elevation of temperature at any time nor during the course of the venous affection, but commencing with the phlebitis in 3. In the course of an apparently physiologic childbed, a blood-clot forms with a slow and insidious phlebitic process in some uterine sinus or periuterine venule. From this point the embolism spreads and the lesions extend to the small pelvis and the legs. This primary focus is manifested by a pain in the uterine cornu or broad ligaments, not very severe—it must be sought for. The patient notices it on movement or on digital pressure toward the hilus of the uterus. It is constant and is always accompanied by indications of pulmonary embolism; dyspnea for twenty-four to forty-eight hours, followed by a pain in the side suggesting the onset of pleurisy, the pains radiating to the shoulder, and aggravated by compression of the phrenic nerve or anterior attachment of the diaphragm. Percussion and auscultation are negative until twenty-four hours later, when a focus of sub-crepitant, moist râles is noticed from behind, in the lower third of the thorax. An apoplectic infarct has been formed and this determines a slight effusion. This pulmonary infarction is the result of the arrival of minute emboli composed of colonies of the infectious agents, rather than of blood clots. These emboli are harmless in comparison with the emboli that develop in the course of an established phlegmasia, which kill by their size or by their suppurative nature. The harmlessness of these primary emboli is shown by the fact that the temperature does not rise. Boissard has observed that all his patients recovered whose temperature remained below 38 C. This benign embolism of the lungs is followed generally in twenty-four hours by the appearance of a phlegmasia alba dolens on the same side as the pain in the thorax. Its extent and duration are by no means proportional to the intensity of the pleuro-pulmonary manifestations. Certain families seem to display a tendency to puerperal phlebitis, usually fat women of the neuro-arthritic type, although the childbed may be apparently normal and physiologic for the first two weeks.

Beitraege z. Allgemeine Pathologie (Jena), xxix, 2.

Artificially Induced Calcareous Deposits in Organs. J. V. Kossa.—Calcareous deposits are observed in the kidney after ligature of the hilum. The calcium is evidently derived from the surrounding tissues and penetrates into the cortex through the capsule. Kossa reports experimental researches which demonstrate that this same result can be attained by chemical means. Aloin, copper sulphate, iodin and iodoform all possess this property more or less. The normal kidney can eliminate large amounts of calcium without the formation of deposits, and consequently a functional disturbance always precedes their formation. The kidney suffering from the chemical action of the poison is no longer able to excrete the total amount of the calcium brought to it in the blood, and the amount thus retained is the source of the calcium crystals visible to the naked eye in the convoluted tubules. The crystals stain yellow in a 1 to 5 per cent. solution of silver nitrate, probably from the albuminate or other organic constituents. Smaller deposits are found also in other organs.

Berliner Klinische Wochenschrift, June 3.

Segments of the Spinal Cord in the Diagnosis of Tumors. F. Krause.—Three cases are described in detail—one cured by the removal of the tumor—demonstrating the valuable information derived from the study of the symptoms in reference to the segments of the spinal cord, to determine the exact site of the tumor. Of the 32 cases of spinal tumors which have been published as operated on, 14 patients died in consequence of the operation and 18 were improved or cured. In the first 20 cases there was a mortality of 10, but there have been only 4 deaths in the last 12. In the personal case described resulting in the cure of the patient, the symptoms indicated severe compression of the cord by a slowly developing tumor inside the dura, to the rear, on the right side. The presence of the knee-jerk showed retention of normal reflex function in the second, third and fourth lumbar segments, and that the lower limit of the tumor's action could not extend below the first lumbar segment. The increased tendon reflexes on the completely paralyzed right side showed that the tumor—above the second lumbar segment—had interrupted the reflex-inhibiting influence from above. This was the only information to be derived in regard to the lower limit of the tumor. It indicated that the compression could not extend below this point. The complete paralysis of the psoas and iliacus muscles indicated that the twelfth dorsal segment must suffer also from the compression. The paralysis was of the kind due to interruption of central conductibility. The injury to the pyramidal tract from the compression of the tumor was necessarily above the first lumbar segment of the spinal cord from which the psoas and iliacus derive their innervation. There was also a distinct girdle of pains, commencing in the sacrum and passing along the upper margin of the pelvis. This region derives its innervation from the twelfth and eleventh dorsal segments. The patient complained of pains in the left leg and right thigh, suggesting irritation in twelfth dorsal and first lumbar segments. The nerve roots are intimately connected with the neighboring roots and irritation of one may entail sympathetic irritation in its neighbors. In this case the symptoms of irritation might appear two roots higher than the actual location of the tumor, but this usually occurs only in case of severe pains. The evidences of interruption in the sensory tracts were diminished sensibility and pain in the region on the left innervated by the first lumbar segment, extending nearly to the iliac crest, with modified thermic sense. Still more suggestive was an oval zone of complete anesthesia on the right side at the back, between the sacrum and the trochanter major, commencing below the iliac crest and extending to a hand's breadth above it. The absolute anesthesia at this spot indicated that three neighboring root regions were paralyzed, the twelfth dorsal segment, from which its innervation was directly derived, and also the segments immediately above and below this. While the motor paralysis extended only to the first lumbar segment, the anesthetic zone included the twelfth dorsal region, and—if we agree with Bruns—the eleventh and even the tenth segments were also involved. The upper limit of the tumor was therefore diagnosed in the tenth dorsal segment, that is, at the seventh spinous process. Its lower limit could not extend below the first lumbar segment, that is, the ninth or tenth dorsal vertebra. The soft parts were incised from the sixth to the tenth dorsal vertebra and tamponed. No ligatures were required. A space from the sixth to the ninth vertebra was opened, exposing the spinal canal for 7.5 cm. The center of the tumor was at the seventh vertebral arch corresponding to the ninth dorsal segment according to Henle; to the upper edge of the tenth according to Reid and to the eighth according to Gowers. The dura above pulsated with the respiration, the spinal cord below with the heart beat. The tumor was 17 by 15 by 11.5 mm. It was easily detached from the pia but was adherent to the dura, requiring the resection of the adherent portion 40 by 17.5 mm. in size. A depression was left in the spinal cord. The tumor did not extend far enough to compress the nerve roots. The edges of the wound in the dura were coapted above and below the site of the tumor without suturing. A drain was inserted at each end of the wound. The operation was completed in forty-five minutes. The tumor was hard as a stone, cellular, studded with numerous round calcareous deposits and round, concentrically arranged balls of cellular tissue and numerous transitional forms between these two. Considerable cerebrospinal fluid was lost, and it continued to ooze from the wound for five days, but the temperature remained normal and the patient was discharged in a month. The paralyzed limb has gradually regained its function but is still weak. There is now—a year later—no muscular paralysis, no vasomotor disturbances; the knee-jerk is normal but the plantar reflex and the abdominal wall reflex can not be induced. In the second case, the patch of absolute anesthesia was in front on the left side, at the eleventh rib, corresponding to the seventh and eighth dorsal segments. This indicated paralysis of the sixth dorsal and—according to Bruns—of the fifth dorsal segment likewise. Consequently the upper limit of the tumor must be at this point, which is opposite the fourth dorsal vertebra. The autopsy in this case confirmed the diagnosis. A carcinomatous growth was found at this point. The anesthesia was due to compression of the cord and not of the roots, in both these cases. The girdle pains in the second were at the level of the ensiform process which also harmonized with this location of the tumor. In the third case, the zone of absolute anesthesia extended in front on the left side to the sixth intercostal space; at the back, to the seventh dorsal vertebra, both pointing to the sixth dorsal segment as the portion of the spinal cord affected. On the right side, it extended in front to the eighth rib and at the back, to the tenth dorsal vertebra, pointing to the eighth dorsal segment. The autopsy disclosed that on the right side the tumor had encroached on the ligamentum denticulatum and had thus exerted direct pressure on the nerve roots in the region, especially on the sixth dorsal nerve at its root. Compression of this region produces the same phenomena of anesthesia as if the sixth dorsal segment, in which it originates, were sympathetically affected. The difficulty in the diagnosis in this case was due to the girdle pains, which corresponded to the sixth and seventh dorsal segments and extended along the costal arch to the stomach. Like the zone of hyperesthesia, the girdle pains indicate irritation of the posterior roots. The compression of the roots or of the segment is sufficient to induce irritation but not to cause suspension of conductibility. A sponge dipped in hot water and applied to the spine was felt as pain between the fifth and the ninth dorsal vertebræ on the left. The tumor was diagnosed in this region and it was found at the sixth dorsal vertebra. In the three cases the lack of correspondence between the upper boundaries of the nervous disturbances and the seat of the tumor was remarkable. In the first case the upper limit of the anesthetic zone was a hand's breadth above the iliac crest while the tumor was at the seventh vertebral arch, that is, 17 to 18 cm. higher. In the second case the carcinoma was at the level of the fourth dorsal vertebra. The girdle pains were on a level with the ensiform process, 17 cm. lower. The anesthetic zone commenced nearly 20 cm. farther down, at the eleventh rib. In the third case, the girdle pains were 12 cm. below the tumor at the sixth dorsal vertebra. The zone of anesthesia commenced at the tenth dorsal vertebra on the right side, and thus 13 cm. below the tumor, but on the left side, where the tumor—a sarcoma—had developed into the ligamentum denticulatum, and exerted direct pressure on the nerve roots, the location of the tumor was not much higher than the upper limits of the anesthetic zone, the distance from the sixth to the seventh dorsal vertebra being only 2.5 cm.

Centralblatt f. Gynecologie (Leipsic), April 27.

Yeast in the Treatment of Leucorrhea. W. Albert.—The disadvantages of the yeast treatment advocated recently by Landau, are all obviated by using killed cultures of yeast cells. The substance thus formed is called sterile "Dauerhefe" by the writer, which might be translated "everlasting yeast." Vaginal secretions rapidly diminish and dry up, even large erosions heal fast, and when it is injected the night before an operation, the vagina is disinfected and sterilized better than with any other preparation known to date. The yeast displays its strongest fermenting power at 35 to 40 C.—the temperature it finds in the vagina. Kossmann in a later number quotes Hippocrates to the effect that yeast was recommended in his day in gynecology. He used it cooked but Dioscorides later, preferred it uncooked. He adds "there is little new to be discovered in medicine, but as a knowledge of Greek is no longer necessary for the medical course in Germany, many wonderful new discoveries may be anticipated in the future."

May 25.

Fate of Prematurely Born, Artificially Delivered Children. F. Ahlfeld.—Tracing the history of 54 children born to 56 women with deformed pelves, Ahlfeld finds that all but five survived the first year. The parents were all of the wage-earning class. This record is much above the average.

June 1.

Ultimate Fate of a Malignant Syncytioma of the Vagina. A. O. Lindfors.—This case has been mentioned already in The Journal. One month after childbirth a malignant syncytioma was removed from the vaginal wall. There were no uterine symptoms. Lindfors reports now that the patient returned a year later with symptoms of a left pleurisy with effusion. The autopsy disclosed a large syncytioma—a malignant deciduoma—in the left lung with numerous metastases in other organs, but the genital organs were entirely free. The embolus of the placental tissue in the left lung probably arrived at the time of the vaginal lesion, but did not commence to develop until favored by a grippal catarrh a year later.

Deutsche Med. Wochenschrift (Berlin and Leipsic), June 13.

Inexplicable Intestinal Necrosis. L. Bornhaupt.—A robust young man died after two days of severe symptoms indicating intestinal obstruction and asphyxia, although there was no tenderness nor meteorism. The autopsy showed the body normal except for a patch of necrosis without demarcation, on the ileum, 50 cm. above the cecum, with a corresponding necrotic patch on the mesentery. The right pleural cavity contained a coagulum the size of two fists. As the respiratory organs were sound in every respect the cause of this hemorrhage is a mystery. It is not impossible, however, that in consequence of this hemorrhage, some mesenteric vessel became occluded by an embolus, with consecutive necrosis. A few cases are on record in which thrombosis of the mesenteric arteries produced symptoms of intestinal occlusion and hemorrhage. The contents of the central portion of the intestines in the case described were blood-stained.

Deutsche Zeitschrift f. Chirurgie (Leipsic), March.

Intracranial Complication of Middle-Ear Disease. E. Merken.—High fever and rapid pulse suggest meningitis, when they accompany symptoms of irritation, and a tempestuous course, with rapid changes in the clinical picture. In the case of an abscess the temperature is nearly normal, the pulse slow, with symptoms of paralysis, and a more insidious course may be anticipated. If the abscess is on the left side, typical disturbances in the speech follow. Encephalitis is much less frequent than abscess, and puncture or incision of an encephalitic focus apparently does little harm. With meningitic symptoms great benefit or great harm may result from an operation, and hence, the surgeon should proceed step by step. Paracentesis alone may rapidly relieve the most threatening symptoms. If no signs of suppuration can be found in the mastoid process and the symptoms grow worse, the dura or sinus can be exposed. If still no pus is found, and nothing to explain the symptoms, the brain may be punctured or even incised, proceeding even to puncture of the lateral ventricle. Meningitic symptoms in children may be caused exclusively by the ear affection.

Cysts in the Pancreas. G. Seefisch.—The clinical symptoms in four cases were violent subjective disturbances at first, mostly gastric, ranging from a mere sensation of oppression to intense pains, vomiting and signs of retention; emaciation; development of a tumor in the epigastric region, usually towards the left; location near the posterior abdominal wall, close to the aorta and hence, aortic pulsation; little or no mobility, but in some places the influence of the respiration on the pancreas was visible, and the position of the artificially inflated stomach and the transverse colon, in front of the tumor. Seefisch has collected 149 published cases, of which 19 were treated by total and 12 by partial extirpation. In 118 cases the cyst wall was sutured to the abdominal wound, opened and drained.

Muenchener Med. Wochenschrift, June 4.

The Present Mortality After Gall-Stone Operations. H. Kehr.—Reviewing his 585 operations for gall-stones, Kehr observes that the mortality—aside from the cases complicated with carcinoma or diffuse cholangitis—is 3.7 per cent. in all, and only 1.7 per cent. in his last 60 operations. If the pancreas is involved—and the more he operates, the more frequently he finds acute or chronic inflammations of this organ—the prognosis depends on the possibility of curing the pancreatic affection. He attributes the improvement in his results of late years to his method of leaving the hepatic duct open and merely tamponing. He mentions that in his last 100 operations, 40 per cent. of the men died and only 8 per cent. of the women. Carcinoma of the head of the pancreas, and peritonitis with adhesions, are more frequent in men; probably both are due to traumatic influences from which women are exempt. As a general thing, he finds that women bear laparotomy better than men. Scheuer has calculated that about 41.5 per cent. of the cases are cured by internal treatment, Naunyn estimates the number at 40 per cent., and Furbringer has recently stated that about 50 per cent. of the patients leave Carlsbad uncured. Surgeons, on the other hand, cure 95 to 98 per cent. of all the cases that come into their hands, and an experienced surgeon is a much better expert at diagnosis than the best practitioner, as the latter seldom or never profits by that wonderfully instructive textbook, the surgical dissection *in vivo*.

Prager Med. Wochenschrift, May 2.

Neoplastic Thrombosis. C. Springer.—A sarcoma in the thyroid gland required tracheotomy, and neoplastic thrombosis was then noticed in the veins of the region. The autopsy showed that the edema in the face, and later in the arms, corresponded to the progress of the venous thrombosis from the neck toward the center and thence laterally to the subclavian. A fragment of the tumor had even found its way into the right heart, causing a peculiar murmur.

Diabetes Mellitus Simulating Gastrointestinal Affections. E. Schuetz.—In all chronic gastrointestinal affections from an unknown cause, the urine should be repeatedly examined for sugar. Diabetes frequently manifests itself first under the clinical picture of dyspeptic symptoms, gastralgia, colic or the gastric crises of tabes. These disturbances are usually accompanied by frequent neuralgias and paresthesia in various parts of the body, occurring simultaneously or alternately. Antidiabetic diet favorably modifies these disturbances.

Mechanism of Arsenical Treatment of Malignant Tumors. C. Trunecek.—The benefits of the application of arsenious acid in the treatment of epitheliomata of the face, are now established beyond further question. The Journal has frequently commented on and described the author's method. He now announces that carcinoma or sarcoma cells are directly necrosed by the action of the arsenic and their protoplasm coagulated. The stroma cells become degenerated and exudation follows, which in turn produces further changes in the tumor cells. Inflammation with demarcation is the result of the application of arsenic to the surrounding sound tissue. It gradually passes into a suppurative stage, terminating in the throwing off of the entire necrosed tumor as a foreign body. In short, the organism reacts to the arsenically treated tumor as to a foreign body and throws it off. The tumor left alone does not induce any reaction of this nature; the organism makes no effort to defend itself against it, and is in turn destroyed by it.

Sammlung Klin. Vortraege, No. 297.

Diagnosis of Puerperal Fever. P. Junge.—The difficulties of differentiating puerperal fever are peculiarly great when typhoid fever makes its first appearance at childbirth. Junge has had an experience of 2 cases of typhoid deceptively simulating puerperal fever, 6 of mastitis, 2 of acute arthritis, 1 of pharyngitis with a dermatitis and nephritis, and 1 of infarction of the lungs.

Wiener Klinische Rundschau, June 2.

Treatment of Bacteriuria. W. Buttermilch.—In most cases of bacteriuria a preceding intestinal affection will be noted. The bacteria invade the bladder through the blood and the treatment depends on whether their presence in the bladder is favored by some local lesion or not. In one case described the treatment was directed against the helminthiasis observed, followed by .5 salol four times a day. After five days this treatment was substituted by a 5 per cent. decoction of uva ursi leaves, a teaspoonful every hour. The urine was entirely clear in three weeks. In another case with gonorrheal antecedents, the bacteriuria resisted all the usual measures for four weeks, including large doses of camphor, but yielded at once to local irrigations with a 1 to 10,000 solution of sublimate. The colon bacillus was found pure in each case. The irrigations had to be repeated four times, as the bacteria evidently developed unchecked in the intervals of treatment, before their final annihilation. In the first case catheterization showed that the infection was by way of the kidneys and consequently general treatment was indicated. The blood was sterile at the time of examination in each case.

June 9.

Idiopathic Peritonitis. H. Nothnagel.—The enormous absorbing power of the peritoneum enables it to dispose of bacteria and toxins circulating in the blood and hence the peritoneum is not involved so frequently as the other serous membranes in case of acute infectious diseases, and there is no possibility of a primary, idiopathic inflammation. Rabbits can absorb without injury 3 to 8 per cent. of their weight of physiologic salt solution injected into the peritoneum. But in case of an affection in the vicinity of the peritoneum, the germs and toxins arriving in such large numbers, are liable to cause inflammation. Nothnagel denies that peritonitis can occur as a primary infection. He always traces it to some lesion in the vicinity: a catarrhal condition or laceration of the intestines, possibly some minimal traumatic lesion, allowing the passage of bacteria into the peritoneum. The only way in which microbes can reach the peritoneum in numbers sufficient to set up an inflammation, without solution of continuity, and the passage through some other tissue, is by way of the female genitalia. But in every case of the kind reported there has always been a co-incident genital affection, some focus in the vicinity from which the infection was propagated.

Wiener Klin. Wochenschrift, June 6.

Cerebral Abscesses in Connection with Affections of the Bronchial Lymph Glands. F. Schlagenhaufer.—At the autopsies of three young women who had died after an acute illness of four to six days' duration, suggesting suppurative meningitis, occurring in the midst of health, multiple abscesses were found in the brain. In two cases perforation had induced a suppurative meningitis. In each case the primary focus was discovered in a suppurating lymph gland below the bifurcation of the trachea, near the right bronchus. The bronchial gland abscess communicated either with the bronchus or esophagus or with both. The primary abscess was tubercular in each case; in two there were slight pulmonary tubercular lesions; in one the lungs were sound. Two similar cases of cerebral abscess have been reported, and the five suggest an explanation for the so-called idiopathic cerebral abscesses or cryptogenetic septicopyemia. The bronchial and tracheal lymph glands should be investigated in all such cases. They also confirm Ribbert's theory that the primary localization of pulmonary tuberculosis is not the lungs but the bronchial, peritracheal glands.

Wiener Med. Wochenschrift, April 13.

Early Diagnosis of Tabes and Paralysis. J. Donath.—A disturbance in the innervation of the iris muscles is indicated when the edges of the pupils are irregular; oval, pear-shaped, triangular or polygonal with rounded angles or picket-shaped. These irregularities in the edges of the pupils can be seen best in a dark room by lamplight, viewed from the side, with a powerful magnifying glass. Donath considers them pathognomonic of a pre-ataxic stage, which may or may not develop into progressive paralysis or tabes. He describes one case in which complete paralysis of the sphincter of the iris and the ciliary muscles preceded by ten years the manifestations of progressive paralysis. The ocular paralysis subsided after a few months. Five years later the pupil reflex vanished on both sides and after a similar interval symptoms of paralysis developed, fatal in six months, the patient previously robust and successful in extensive financial affairs. In another case, myosis, absence of the pupil reflex, and slight atrophy of the optic nerve have persisted for fifteen years, with no apparent tendency to further symptoms. The age assists in differentiating paralysis, as it usually appears between the thirtieth and fiftieth year.

Brazil-Medico (Rio de Janeiro), May 8.

Tropa-Cocain in Spinal Analgesia. D. de Almeida.—The writer reports a series of major operations successfully performed under spinal cocainization with a 2 per cent. solution of tropa-cocain. No mydriasis, headache nor vomiting was observed in any case.

Curare. J. B. De Lacerda.—The organizers of the recent Latin-American Congress invited Lacerda, the author of the theory of the symbiosis of the yellow fever germ with a mould, to deliver an address on the bacteriology of yellow fever. He refused, as his convictions on the subject have weakened of late and he did not feel himself competent to see clearly in the chaos at present reigning in regard to the etiology of the disease. He reported instead, some recent research on the subject of curare, which he discovered is made by the Ticunas from a mixture of plants, including Castel Ney Strychnos, a piperacea and the anomospermum grandifolia. Studying the latter alone, he found that the fluid extract possessed all the properties of curare. The progress of the paralytic phenomena is more clearly defined than even with curare, showing the succession of the symptoms, commencing with paralysis of the hind legs, then of the forelegs, muscles of the tail, ears, lids and finally of the respiratory muscles. The sensory perceptions are retained to the last.

Revista Medica de Bogota, Colombia, No. 250.

Yellow Fever. N. Osorio.—A suspicious fever is epidemic at certain points in Colombia and Osorio appeals to the authorities to appropriate funds for the manufacture of Sanarelli's anti-yellow-fever serum, which he considers the only effective remedy to date against the disease.

Yellow Fever. J. M. Escobar.—The writer's long experience with yellow fever shows that the best results are attained by the following treatment: Against the fever, cold baths and iced, acid drinks are sufficient. The same drinks are indicated in case of vomiting, alternated with small glasses of champagne mixed with equal parts of an alkaline water. If these fail, he prescribes five drops of essential oil of cajeput in an aromatic infusion, supplemented by ether or chloroform, but never by cocain. A milk diet and alkaline drinks are the best means to sustain the renal permeability, but when the amount of albumin exceeds 1.5 per 1000, the urinary insufficiency requires more immediate measures, and oxygen inhalations are indicated. In one case the albumin attained 3.5 per 1000, but had entirely vanished after four days during which twenty-four liters of oxygen had been inhaled each day. In case of hemorrhage, besides the usual hemostatic measures he administers calcium chlorid, as the change in the blood plasm is the immediate cause of the multiple hemorrhages; continuing the oxygen, which has proved so successful in hemorrhage consecutive to icterus. The diet should be restricted to coffee, champagne and milk containing an alkali, but if rectal alimentation alone is possible, water should be given copiously, brandy to stimulate the circulation and peptonized milk. Papain is preferable to pepsin for the purpose, however, as it works in an alkaline medium while the latter requires an acid.

Queries and Minor Notes.

LODGE PRACTICE.

Ashton, R. I., June 14, 1901.

To the Editor:—By enclosed clippings from the Pawtucket, R. I., *Times* of 13th inst., you will perceive how the profession is degraded by men who allow themselves to be championed and exploited, we might say enslaved, by secret and other societies in opposition to ethical members of the profession, who are consequently insulted by municipal bodies daring to offer them a miserable dime-piece for their services, which was, no doubt, greedily clutched at.

The Medical Association of Pawtucket, numbering among its members the leaders of the profession in that city, refused to meet with those who eagerly grasped at the miserable pittances forced on them by the secret and other societies, and who have banded themselves in a rival club named the Pawtucket Medical Society, which is, I need not say, not affiliated with the State Society. Some of them come out here, a distance of five miles, to examine for an Insurance Company which flings to them the munificent dole of 25 cents per capita, as you would a bone to a dog. Comment is unnecessary.

Following is the clipping referred to: "The meeting of Court City of Pawtucket, Foresters of America, which was held last evening in St. George's Hall, Cole's Block, was of more than ordinary interest because a movement was begun to institute a boycott of the physicians of the city and vicinity who are members of the Pawtucket Medical Association, because of the stand taken by the association that no member of the association can act as physician for any lodge or social, secret or fraternal organization within the jurisdiction of the association, unless in violation of the ethics of the fraternity. It will be recalled that recently the Pawtucket Medical Association declared against any member acting as lodge physician, and this fact in due time came to the attention of the court. Last night the subject was well discussed and action was taken after the subject had been pretty well talked over and well understood. It was voted to appoint a committee of three to confer with all social, fraternal and secret organizations of Pawtucket and vicinity for the purpose of securing the united pledging of the support of the various organizations, in a movement that shall pledge every member of the lodges and societies not to employ for himself or family a member of the Pawtucket Medical Association. There was a great deal of plain talk, and it was held by some of the speakers that the stand of the association was arbitrary and there were just as good physicians out of the association as were included in the membership. The committee was authorized to act on its own discretion, but to lose no time in carrying out the instructions, which were given by unanimous vote of the court."

N. O'D. Parks, M.D.

Ans.—We know nothing further of the merits of this particular case, but that physicians in many places are being used by organizations for the aggrandizement of these bodies is well known. It would be well if this growing evil could be recognized before it is too late and if it could be met by an organized profession, and not by a disorganized one, as seems to be the case in Pawtucket.

THE HIPPOCRATIC OATH.

Ithaca, N. Y., June, 1901.

To the Editor:—Will you kindly send me a copy of the Hippocratic oath, or tell me where I can get one? A. T. K.

THE OATH.

I swear, by Apollo the physician, and Æsculapius, and Health, and All-heal and all the gods and goddesses, that, according to my ability and judgment, I will keep this oath and this stipulation to reckon him who taught me this Art equally dear to me as my parents, to share my substance with him, and relieve his necessities if required, to look upon his offspring in the same footing as my own brothers and to teach them this Art, if they shall wish to learn it, without fee or stipulation, and that by precept, lecture and every other mode of instruction, I will impart a knowledge of the Art to my own sons and those of my teachers, and to disciples bound by stipulation and oath, according to the law of medicine, but to none others. I will follow the system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to any one if asked, nor suggest any such counsel; and in like manner I will not give to a woman a pessary to produce abortion. With purity and with holiness I will pass my life and practice my Art. I will not cut persons laboring under the stone, but will leave this to be done by men who are practitioners of this work. Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption; and further from the seduction of females or males, of freemen and slaves. Whatever in connection with my professional practice or not in connection with it, I see or hear, in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this Oath unviolated, may it be granted to me to enjoy life and the practice of the Art respected by all men in all times!

But should I trespass and violate this Oath, may the reverse be my lot!

CONGENITAL NASAL DEFORMITY.

MINNEAPOLIS, MINN., May 27, 1901.

To the Editor:—I have a patient whose face is rather disfigured by a congenital deformity of the nose, to remedy which it would be necessary to increase the height of the septum. Please tell me if such operations have proven successful and give the address of some surgeon making such operations a specialty, to whom I could refer this patient with assurance of fair treatment.

Yours truly, A. B. C.

ANS.—Such operations are being successfully performed almost daily, and the results are usually satisfactory. Each case is peculiar to itself, and just what will have to be done can only be determined by examination of the particular case. We can not recommend any particular surgeon. As it is not a specialty, all well-qualified surgeons are prepared to operate on such cases.

RHODE ISLAND STATE BOARD.

RICHMOND, VT., June 13, 1901.

To the Editor:—Please give me the name and address of the secretary of the State Board of Medical Examiners of Rhode Island.

W. T. T.

ANS.—Address Dr. Gardner T. Swarts, Secretary State Board of Health, 48 Weybosset St., Providence, R. I.

STATE BOARD EXAMINATIONS.

CARROLLTON, KY., June 17, 1901.

To the Editor:—Please give me list of states in which a graduate of a recognized medical college can practice without having to stand the state board examinations. J. H. A.

ANS.—The answer to this query appeared in THE JOURNAL of April 13, p. 1081.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., June 13 to 19, 1901, inclusive:

Lawrence C. Carr, major and surgeon, Vols., recently appointed, relieved from duty in the Department of Cuba, when his services can be spared by the general commanding that department, to proceed to San Francisco, Cal., en route for assignment to duty in the Division of the Philippines.

Henry R. Carter, Jr., contract surgeon, former orders so amended as to direct him to proceed to his home, New Orleans, La., for annulment of contract.

J. C. Garlington, contract surgeon, leave of absence granted.

Frederick C. Jackson, captain and asst.-surgeon, Vols., from temporary duty at Columbus Barracks, Ohio, to San Francisco, Cal., en route to duty in the Division of the Philippines.

Frank R. Keefer, captain and asst.-surgeon. U. S. A., leave of absence granted.

Franklin M. Kemp, lieutenant and asst.-surgeon, U. S. A., from West Point, N. Y., to San Francisco, Cal., en route to duty in the Division of the Philippines.

William L. Kneedler, major and surgeon, U. S. A., now under treatment at the U. S. General Hospital, Presidio of San Francisco, Cal., relieved from further duty in the Division of the Philippines, to proceed, on the expiration of his present sick leave, to West Point, N. Y., to relieve Lieut. Franklin M. Kemp, asst.-surgeon, U. S. A.

Stanley S. Warren, contract surgeon, from Fort Clark, Tex., to his home, Shelbyville, Tenn., for annulment of contract.

William P. Woodall, contract surgeon, from Salado to Fort Clark, Texas.

In addition to the above the following-named officers are detailed as members of the faculty of the Army Medical School: Colonel Wm. H. Forwood, asst. surgeon-general, U. S. A., as president of the faculty, vice Colonel C. H. Alden, U. S. A., retired; Colonel Calvin DeWitt, asst. surgeon-general, as professor of military medicine; Maj. John Van R. Hoff, surgeon, as lecturer on the duties of medical officers in war and peace; Major William C. Borden, surgeon, as professor of military surgery, vice Colonel Forwood, designated as president of the faculty; Major William P. Reynolds, surgeon. U. S. Vols. (captain and asst.-surgeon, U. S. A.), as instructor in Hospital Corps drill and first-aid to wounded, vice captain George D. DeShon, relieved.

Navy Changes.

Changes in the Medical Corps of the Navy, week ended June 22, 1901:

Dr. H. M. Tolfree, appointed assistant-surgeon from June 14, 1901.

Surgeon C. F. Stokes, ordered to the *Solace,* upon arrival in the United States.

Asst.-Surgeon R. B. Williams, ordered to the *Kearsarge,* June 24.

Asst.-Surgeon F. M. Furlong, detached from duty at Guam and ordered to the *Solace* for transportation home.

Asst.-Surgeon R. K. McClanahan, detached from the *Culgoa* and ordered to the *Vicksburg.*

Asst.-Surgeon D. B. Kerr, detached from the *Vicksburg* and ordered to the *Culgoa* to wait orders en route

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended June 20, 1901:

Surgeon C. T. Peckham, granted extension of leave of absence, on account of sickness, for thirty days from June 20.

Surgeon R. M. Woodward granted extension of leave of absence for three weeks from June 5.

P. A. Surgeon C. H. Gardner, granted leave of absence for seven days from June 21.

Asst.-Surgeon G. M. Corput, relieved from duty at the port of St. Louis, Mo. Leave of absence for one month granted by bureau telegram of May 16, amended so that said leave shall be for twenty-one days only.

Asst.-Surgeon Dunlop Moore, to proceed to Port Townsend, Wash., and assume temporary charge of service during absence of P. A. Surgeon C. H. Gardner.

A. A. Surgeon B. J. Brown, Jr., granted leave of absence for fourteen days from June 20.

A. A. Surgeon B. W. Goldsborough, granted leave of absence for two days.

Hospital Steward W. F. Schlaar, relieved from duty in the Hygienic Laboratory, and directed to proceed to Key West, Fla., and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward E. B. Scott, granted leave of absence for twelve days from June 24.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended June 22, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

California: San Francisco, June 2-9, 1 case.

Florida: Key West, June 5, 1 case.

Illinois: Chicago, June 8-15, 4 cases.

Indiana: Evansville, June 8-15, 1 case; Michigan City, June 10-17, 2 cases; South Bend, June 8-15, 1 case.

Iowa: Clinton, June 8-15, 1 case.

Kansas: Wichita, June 8-15, 3 cases.

Kentucky: Lexington, June 8-15, 1 case.

Louisiana: New Orleans, June 8-15, 11 cases.

Massachusetts: June 8-15, Fall River, 1 case; New Bedford, 3 deaths; Worcester, 8 cases, 2 deaths.

Michigan: Detroit, June 8-15, 33 cases, 1 death; Sault Ste. Marie, June 16, prevalent.

Minnesota: Minneapolis, June 8-16, 17 cases; Winona, June 8-15, 1 case.

Missouri: St. Louis, June 2-9, 37 cases, 1 death.

Nebraska: Omaha, June 8-15, 12 cases.

New Hampshire: Manchester, June 8-15, 6 cases.

New Jersey: Jersey City, June 8-16, 2 cases; Newark, June 8-15, 3 cases; Plainfield, June 8-15, 1 case.

New York: New York, June 8-15, 102 cases, 11 deaths; Yonkers, June 7-14, 5 cases.

Ohio: Cincinnati, June 7-14, 5 cases; Cleveland, June 1-15, 45 cases; Dayton, June 8-15, 1 case; Toledo, June 8-15, 1 case.

Oregon: Portland, May 1-June 5, 23 cases.

Pennsylvania: Philadelphia, June 8-15, 3 cases, 1 death; Pittsburg, June 8-15, 2 cases.

Rhode Island: Providence, June 8-15, 3 cases.

Tennessee: Memphis, June 1-15, 26 cases, 2 deaths; Nashville, June 8-15, 1 case.

Utah: Salt Lake City, June 8-15, 8 cases.

Vermont: Rutland, June 8-15, 1 case.

Washington: Hoquiam, June 10, 1 case.

West Virginia: Wheeling, June 8-15, 1 case.

Wisconsin: Green Bay, June 8-16, 6 cases; Milwaukee, June 8-15, 3 cases, 1 death.

Philippines: Manila, April 20-May 11, 18 cases.

SMALLPOX—FOREIGN.

Austria: Prague, May 25-June 1, 4 cases.

Belgium: Antwerp, May 25-June 1, 2 cases.

Ceylon: Colombo, May 4-11, 5 deaths.

China: Hongkong, April 26-May 11, 5 cases, 2 deaths.

Colombia: Panama, June 3-10, 6 cases.

France: Paris, May 25-June 1, 10 deaths.

Gibraltar: May 24-June 2, 1 case.

Great Britain: Glasgow, June 1-7, 35 cases, 1 death; Liverpool, May 25, June 1, 2 cases; London, May 25-June 1, 1 case.

India: Bombay, May 14-21, 8 deaths; Calcutta, May 11-18, 31 deaths; Karachi, May 12-19, 4 cases, 2 deaths; Madras, May 4-17, 22 deaths.

Italy: Messina, May 25-June 1, 1 death; Naples, May 26-June 2, 169 cases, 30 deaths.

Russia: Moscow, May 18-25, 25 cases, 1 death; St. Petersburg, May 18-25, 15 cases; Warsaw, May 11-18, 4 deaths.

Spain: Corunna, May 25-June 1, 1 death.

Straits Settlements: Singapore, April 1-30, 3 deaths.

Switzerland: Geneva, May 18-25, 5 cases.

Syria: Beirut, May 18-25, a few cases.

YELLOW FEVER.

Cuba: Havana, June 1-8, 1 case.

CHOLERA.

India: Bombay, May 14-21, 3 deaths; Calcutta, May 11-18, 77 deaths; Madras, May 4-17, 6 deaths.

PLAGUE—INSULAR.

Philippines: Cavite, May 2, 1 case; Cebu, May 2, 1 case; Manila, April 20-May 11, 94 cases, 79 deaths; Santa Rosa, May 2, 1 case.

PLAGUE—FOREIGN.

Africa: Cape Town, May 4-18, 463 cases, 209 deaths.

China: Hongkong, April 27-May 11, 221 cases, 209 deaths.

India: Bombay, May 14-21, 224 deaths; *Calcutta,* May 11-18, 79 deaths; Karachi, May 12-19, 149 cases, 144 deaths.

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Address.

SECTION ON PRACTICE OF MEDICINE.

ADDRESS OF CHAIRMAN DELIVERED AT THE FIFTY-SECOND ANNUAL MEETING OF THE A. M. A., HELD AT ST. PAUL, MINN., JUNE 4-7, 1901.

J. M. ANDERS, M.D., LL.D.
PHILADELPHIA.

Upon those selected to guide and direct the executive work of this large and important section of the American Medical Association, devolves a difficult task and a weighty responsibility. The high character and comprehensive scope of the work actually accomplished by the Section, more especially during the last two decades, is a forcible reminder that lack of concentrated effort in the future will result in stagnation, if not a backward step, instead of progress. You may be assured that with these thoughts ever in mind, those charged with the office work and the preparation of the present program spared no effort to make it attractive, interesting and meritorious. I desire here to make public acknowledgment of the efficient services so cheerfully and faithfully rendered by the Secretary of the Section.

It might seem befitting a chairman's address, at first sight, to take a retrospective view and consider the progress of internal medicine during the last 100 years, at this, the first meeting after the dawn of a new century in its nascent glory, but I join my predecessor, Dock, who says: "These things have been told and retold in more eloquent tongues."

The past is only useful as it furnishes inspiration for the present, hence, contrary to custom, generally speaking, my brief utterances shall not be reminiscent in character. To come down to the past year, it would indeed be hard to describe fully the fruits of that brief period. Moreover, this would be a work of supererogation, since you have already been made acquainted through the medical press with its most important advances and discoveries. Again, neither the number nor the relative importance of the published medical discoveries and fresh views can be arrived at by a process of induction while we are yet so close to the scene of action. Time is needful to encompass, confirm and properly appreciate the true worth of new scientific truths, as well as to determine precisely their range of practical application.

New truths are the raw material, which must be refined by a process, first of confirmatory investigation, then of practical application, before they become the finished fabric and constitute a part of the sum of, or mark an advance in, scientific knowledge. All this is necessary in order that nothing that is good shall be lost to mankind and nothing that is false shall fail to be rejected. Specific points connected with subjects in the developmental stage are likely to be considered by the essayists at these meetings and to be subsequently discussed by the members. Hence the folly of attempting to estimate or to delineate accurately the real or noteworthy and numerous minor improvements at the close of each year. This, however, can be accomplished with ease and certainty from the point of vantage of the future. On the other hand, I am not protesting against the propriety of allusion to revolutionizing and startling discoveries that are of universal interest and promise much for the future, in scientific addresses.

I am not rash enough to attempt a prophecy for the future of internal medicine—a tempting task—but cheered and encouraged by the unparalleled leaps and bounds of the last two decades, we turn with hope and confidence to the new, with its boundless opportunities and possibilities.

It has been questioned by some whether we may hope to make a "proportionate advance in the future," as compared with the course of events in the recent past, but the marvellous expansion of laboratory research, and the greater precision in methods of clinical observation, leave little room for doubt that the increase in actual knowledge will be at an increased ratio—there will probably be witnessed a new era of scientific achievement. At all events, we may anticipate greater progress in the coming years, unless, perchance, the profession falls short in the matter of training the senses and of cultivating critical judgment. Here may be thrown out a word of caution, lest the predominant tendency of the day to rest confidently upon the results of the refined, scientific methods of investigating disease lead to the unconscious neglect of careful bedside observation. The most fruitful results have been and ever will be attained when personal observation and the more exact laboratory methods are happily combined. The medical horoscope, however, reveals nothing that is calculated to inspire universal uneasiness and I have little patience with pessimistic views as we face a period that doubtless holds in store products and triumphs in original research and in practical experience and observation that we will not have dreamed of.

At present this body enjoys the cordial support and sympathy of the majority of the leading medical men throughout the country. It has met the necessities of the past and it will well meet the requirements of the future. The rapid growth and ever-increasing importance of the Section emphasizes the conspicuous ability of those who conducted its scientific business during the recent past. On searching the records of by-gone days, one may discover counsels of their wisdom for future guidance and action; and yet not to be overlooked is the fact that what was best or even good then may not be so now, so radically do conditions change within brief periods, in consequence of the rapid progress of medical science.

The medical section of the American Medical Association can point without ostentation and with becoming modesty to its record; it has accomplished highly creditable pieces of scientific work, but its rise and growth can not continue indefinitely unless those most deeply interested in its success and intrusted from time to time with the unenviable responsibility of formulating and executing plans for larger usefulness, give even more laborious and careful attention to the arrangement of subjects, the selection of essayists of wide reputation, the office work and other details in the future than in the past. This is necessary if the utility of the work accomplished by our Section is to be commensurate with, or to keep pace with, the development of our science. It is to be recollected that as it assumes a more and more conspicuous or commanding position among professional organizations, the greater will be the danger from deterioration or disintegration. Indeed, "the safety of any organized body is in inverse ratio to its size" (Rothrock), or, in other words, so soon as it commands attention and stirs the thought of the general public, it invites honest criticism. This is no new idea, but a well-established physical law. Hence, although there are no "vague shapes of gloom" in the horizon, it behooves the conductors of the offices of this organization to keep in remembrance the principles it embodies and to adopt a policy that will at all times reflect, what after the closest scrutiny, observation, experience, investigation and honest conviction is believed to be the highest wisdom and calculated to promote the highest interests of the Section. This policy should, it seems to me, determine also what subjects shall be discussed and whether certain questions are of sufficient importance to be discussed at all. The effect and the object aimed at would be probably to lessen the number of topics considered at each session, but it would give impetus to the merits of the papers presented and would also allow more time for their discussion. Nothing is gained by presenting an overfilled program that can neither be carried out satisfactorily nor enjoyed by the members. The amount, as well as the character, of the material supplied should be prearranged with greater care than is practicable under the present system, so that the proceedings could be grasped within the time allotted to our sessions. Symposia meet the difficulty to a certain extent, particularly if previously arranged and planned in such a manner as to avoid repetition, as well as to present the most interesting aspects only of the subjects brought forward. It is my firm conviction that the growth of the medical section and its influence upon the medical profession of the United States could be greatly enhanced by extending the work of the Executive Committee. Better still, perhaps, would be the appointment of a special committee on scientific business. This committee should hold office for from three to five years, thus insuring a membership conversant with the working arrangements and needs of the Section. The Secretary of the Section should be a member of this committee and the chairman a member ex-officio. All papers intended for presentation at the annual meeting of the Section should be in the hands of and scrutinized by the committee at least one month prior to the date of the meeting.* A part of the function of the special committee previously suggested should be to report plans, and broadly sketch new features with a view to effecting improvements in the work, thus insuring the greater prosperity of the Section for the future and removing certain deficiencies that may tend to limit its utility. I care naught whether the suggestions I have ventured be adopted, but I do affirm that the times are ever ripe for readjustments looking to the improvement and betterment of the character of section work. I desire to invite especial attention to the timeliness of a self-examination, a close scrutiny of the internal condition of things.

I am pleading for a policy that will tend to exalt the professional importance of the Section, which should at all times be specially representative of the best medical research as well as the ripest experience and observation of this fair land; and for a policy that shall insist upon a maximum of creative, constructive, original work to the exclusion of wearisome individual details and cumbersome bibliography. These meetings should be the occasion of the most important contributions to *practical* medicine.

Assuming this position to be incontrovertible, are we thoroughly alive to our responsibilities and opportunities? My apology for raising this query, if any is needed, is that one meets with comments like the following[1]: "The meeting itself appears to have been one of interest. The papers read were not of very striking originality. Perhaps we should except two of them from this remark." When it is recollected that these statements apply to the meeting of the American Medical Association in general, and that the total number of papers read before this body annually is several hundred, the words quoted above can not be regarded as a gratifying expression of approbation.

The accomplishment of high praise instead of comments like the above is the goal for this organization. If it be thought from these remarks that my attitude is too pessimistic, I must demur; on the other hand, I affirm that the times and the occasion are alike pregnant with promise and encouragement. Conditions are most favorable when viewed in the light of the situation as it existed in the recent past. My sole desire is to emphasize the importance of carefully watching and guarding the Section in its upward movement. Surely the auspicious opening of a new century should furnish a hopeful prospect and mark another mile-stone in its march toward an era of increased prosperity and greater practical utility.

Specialism in the science and art of medicine is an absolute necessity, but I venture to suggest that certain reforms are desirable in the line of rearrangement of the work that has been embraced under the Section on Practice of Medicine, as well as in those most closely allied to it. I am, and have been, in thorough accord with the establishment of the Section on Pathology. This is a special department of medical science for those who take a really scientific interest in the subject, and those who have had careful training in the methods of investigating the more obscure and finer questions in morbid anatomy and pathology. The technical knowledge that results from these laboratory studies, and the expert opinions based upon them, however, are of no small value in the study and recognition of many diseases. We welcome the fruits of these labors and utilize them, but the majority of the members of the medical section have neither the training nor the time needful to devote to the detailed work of the new Section. On the other hand, the general practitioner must constantly keep before the mind's eye a picture of the gross lesions of disease, and must appreciate the processes involved in their pathogenesis in order that the clinical manifestations may be properly appreciated. The lines between the sections on medicine and pathology, however, should never be too closely drawn. There is a narrow border field in which clinical observation, laboratory investigation and postmortem findings are inseparably associated.

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* These suggestions are met in part by the new rule compelling the retiring chairman and two members of the Executive Committee to approve all papers presented before the Section before they can be published in The Journal, but does not prevent the reading of unworthy articles.

[1] Editorial in The Lancet, London, vol. ii, 1893.

In the case of the Section on Materia Medica, Pharmacy and Therapeutics, we have an instance in which cleavage has been overdone; and it is recognized by many who have been closely identified with that section that, so far as applied therapeutics is concerned, it is of practical interest and importance exclusively to the clinician. The greatest progress in internal medicine has been, during the last century, in the sphere of diagnosis, while the advance in applied therapeutics has been comparatively slight. It is true that we are experiencing a wave of over-activity relative to the number of novel remedies brought to the attention of the medical profession, but trustworthy records or positive statements concerning the majority of these are sadly wanting. Indeed, a note of warning against the injudicious employment of novel remedial agencies is timely at present. Their action, or supposed action, upon the human economy does not in many cases rest upon the results of experimental pharmacology, but, as a rule, simply upon the briefly summarized personal experience of a single practitioner, whose promulgated statements serve as the basis of a catching and alluring advertisement for some enterprising firm with, let us charitably hope, the most laudable intentions.

Much to be deplored are the hidden purposes of our professional brethren who vaunt novel agents without even presuming to afford clear and convincing evidence of their therapeutic value. It is, however, to be looked upon as a favorable indication that an awakening on the part of the profession at large to the importance of greater interest and attention to the all-important subject of the restoration of health to the sick, and even to the symptomatic treatment of disease, is taking place. The prime object of our art is to cure disease. What manner of physician is he who fails to exert strenuously the resources of that art? Surely none of us would be willing, after making a precise and careful diagnosis in a given case, to step aside and allow the therapist to conduct the treatment. Nor should we, as clinicians, feel gratified to continue in attendance upon a case in which the treatment was dictated by a specially-trained therapeutist. This granted, obvious harm has arisen and will doubtless continue to arise from injudicious specialism. It is true that the study of the physiologic action of drugs is the basis of scientific therapeutics; it is equally true that the progressive clinician must avail himself of such knowledge—the finished laboratory product—resting as it does on the immutable basis of physical truth. As practitioners, however, we know that while there is a therapeutics founded upon pharmacology, thanks to the genius and labors of Magendie and Bichat, there is also an empiric therapeutics and a yet wider sphere of curative action in hygienic means, including dietetics. Whatever forces are of practical use must be embraced in the armamentarium of the medical practitioner; he must know the proper basis for their application, and the fundamental laws or rules that serve as guides to the attainment of scientific accuracy in his efforts to overcome disease.

Among the important questions pertaining to the treatment of disease that are awaiting a clearer solution and should be considered by this Section may be mentioned; serumtherapy, organotherapy, the higher precision of results from alkaloids as compared with crude drugs, the true sphere of hydrotherapy, of climate, rest, exercise, massage, diet, venesection, and electricity. Would not a more careful, thorough and comprehensive consideration and a fuller informal discussion of these subjects by the Section lead to increased knowledge pertaining to most valuable aids for the relief of suffering and the cure of human ills? Is not the oft demonstrated fact that medicines are the least important part of the treatment of disease too commonly lost sight of by essayists? For example, success in the treatment of disease is often possible only by the use of appropriate dietetic measures. "The father of medicine," Hippocrates, was fully alive to the importance of a wise selection of pabulum for the sick. Knowledge of the fundamental principles of dietetics is essential for the conducting of the cure of disease (Clarke). Too little interest is manifested by the general practitioner in the diet treatment of disease; he is in great need of practical information relating to this theme and of enlightened discussion of the subject. Now, there could be no more opportune time than the present and no more appropriate place than in this section to consider and discuss this subject in its practical phases; and the same remark would apply to the other physical methods of treatment to which I have made passing reference.

The development of proper and efficient systems of treatment must be the achievement of the physician; he must master their "spirit and form," for he alone is acquainted with the complexity of the indications calling for their utilization. I have been surprised that an upheaval of sentiment in favor of a return to first principles, or a throwing of therapeutics where it properly belongs, into the Section on Practice of Medicine, has been so long delayed. I am not protesting against a special section, properly organized for the prosecution of certain definite lines of investigation, more particularly the physiologic action of drugs, their constitution, and materia medica proper—a section of "Pharmacology, Pharmacy and Materia Medica," if you will pardon a suggestion. As in the case of morbid anatomy and pathology, the clinician is interested in the results of such scientific work; the accurate knowledge thus gained by the laboratory experimentalist is of marked value to the successful treatment of disease and satisfactory observation at the bedside.

I am not an advocate of the unlimited multiplication of sections, and I have a fixed belief that the best method of making the AMERICAN MEDICAL ASSOCIATION the aggressive, energetic and world-famed organization that all of its members must wish it to be, is by a co-operation of the more or less closely allied sections in the bringing forward and the discussion of certain subjects or selected aspects of appropriate themes that possess leading interest, in joint sessions.

I am led in consequence of these reflections to make another step in the same direction, and refer briefly to the brilliant dawn of a new morning on which the obscuring mists of ignorance, prejudice and misconception have been lifted by the light of advancing truth, and the gifts of surgery to medicine are appreciated and cordially welcomed. The increasingly large number of human ills in which surgical aid is invoked suggests the thought that a closer affiliation of the surgical and medical workers would be of importance to the welfare of mankind.

Speaking of specialism, says Shattuck,[2] "The heais practically the only viscus which remains the exclusive property of the physician, and I am not so sure that even this organ will soon be attacked and we may hear of suturing mitral valves." Of a truth, this organ has been invaded by the surgeon. Neither the physician nor the surgeon can afford to confine himself alone to his specialistic studies; there should be held more frequent meetings on a common platform for the discussion of certain subjects or phases of topics of mutual interest; and consultations in the operating theater and at the bedside, as well as combined medical and surgical clinics in the arena for the benefit and instruction of students are urgently demanded. Truth and fairness compel the admission that the zealous surgeon is sometimes more to be honored, possibly even rewarded, for what he attempts than for what he actually achieves. Without wishing to detract from the merits of our surgical confrères, the medical practitioner is compelled to witness or learns of surgical operations having been performed which would most probably not have been executed had the operator first consulted with a progressive clinician. Conversely, the physician would grow less conservative as the result of more frequent consultations between himself and surgeons—a consummation to be desired. The thyroid gland has been extirpated *in toto* for exophthalmic goiter with resulting myxedema; cholecystotomy has been performed too commonly for supposed cholelithiasis where gall-stones were not in evidence after opening the abdominal cavity. These conditions, and numerous others that could be cited, should be carefully and thoroughly studied by both physician and surgeon, prior to operating, in order to determine precisely the nature of the affection in the case and the indications for treatment, medical and surgical. If this suggestion be not more generally adopted in the future than in the recent past, there remains but a single course open to the medical man, namely, to enter the domain of surgery.

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[2] Address in Medicine, Phila. Med. Jour., Sept. 22, 1900.

In short, somehow or other, the medical man and the surgeon should be brought into closer, truer and more intimate relations with one another along certain definite lines, in the growing border lands, so to speak, between *internal medicine* and surgery. This is essential to the attainment of the true dignity, the comprehensive scope and beneficent intent of the medical profession. The morbid processes that we term medical diseases are not entities, and this is equally true of surgical conditions and affections; and success in the matter of their treatment demands, in many case, the combined efforts of the physician and the surgeon. Analogously, while each section of the American Medical Association has, for the most part, a distinct function (and while the best work may be done by the special local and national societies), yet the judicious affiliation of those sections having interests in common is indispensable to the realization of the full measure of our strength and our influence as a national organization. No greater stride toward the attainment and maintenance of our true position, toward promoting professional achievement and welfare or strengthening the pillars of the Association could be taken than by a closer, truer union wherever the strands of mutual interest of the different sections are inseparably interwoven.

Finally, if the American Medical Association hopes to be one of the great powers of the country, it is of grave importance that the proposed reorganization scheme be promptly effected and that due effort be made to establish and maintain proper respect and forbearance between the various sections, to the end that they may work in perfect harmony with one another.

I have attempted to point out a few lines on which our organizational and professional progress must be conducted. If I have seemed to lay too much emphasis upon the interdependence of certain sections of the Association and insufficient stress upon scientific investigation and data as the one sure means to a desired end, I would say in extenuation that the apparent omission is to be ascribed to the restrictive custom as to the time for a chairman's address. On the contrary, in the special work of this section, or any of the others, contributions based on original obesrvation and research must, in the future as in the past, constitute the choicest fruitage. Looking to the attainment of these higher results, permit me to suggest, in concluding, that an earnest effort should be made to enroll on the escutcheon of our Section all the master spirits in America, all who are bound together by the common tie of special research and observation in the broad field of internal medicine.

Original Articles.

APPENDICITIS.*

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In addressing the medical section at this meeting, I acknowledge to a feeling of great satisfaction, for though my subject is a surgical one, I can come before you without hesitation, since no one has such power to increase the application of surgery as the general practitioner—not by diagnosis alone, but even more by a proper comprehension of these morbid conditions most commonly seen by the surgeon.

I shall make a few remarks on appendicitis, and though to some of you this may seem a topic sufficiently discussed, yet many false ideas still cling to it, and each day convinces me of the necessity of threshing out the matter until the priceless grains of truth remain.

The appendix is probably the most vulnerable of the abdominal organs, and this from several causes: 1. It is a structure in the process of retrograde metamorphosis; it is deficient in blood, nerve and lymphatic supply; it is long and its caliber is small, hence its drainage is easily interfered with; and lastly it is subjected to traumatism by the movements of the psoas muscle, on which it usually lies. From this, then, it is apparent that the appendix may easily become a very target for the destructive micro-organisms—normally present in its lumen—where from any cause these are incited into activity; and it is especially noteworthy that a hollow, glandular organ remains intact only so long as the production and evacuation of its secretion continues normally. When this function is deranged there are serious results: 1, retention, stagnation and decomposition of the appendix contents; 2, pressure, leading to impairment of the appendix wall; 3, and most important, the bacteria, especially the colon bacilli, are so increased in number and virulence that they are able to penetrate the coats of the appendix and set up their irritant processes in varying degrees. Such is, in brief, the pathogenesis of appendicitis—a complex process, essentially progressive in character.

In conformity with clinic observation two varieties of inflammation of the appendix are recognized, an acute and a chronic; and while a chronic appendicitis may be the result of a previous acute process, yet it must not be forgotten that appendicitis may also be chronic from its inception. The following classification is suggested as convenient and well founded. Acute appendicitis: 1, catarrhal; 2, interstitial; 3, ulcerative; 4, gangrenous. Chronic appendicitis: 1, catarrhal; 2, interstitial; 3, obliterating.

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* Read in the Section on Practice of Medicine, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

It must, however, be frankly admitted that we are not always able to distinguish clinically the different pathologic varieties of appendicitis. Indeed, dissimilar lesions may even present identical symptoms; nor do the clinical manifestations bear any suitable proportion to the degree of involvement of the appendix.

These apparent inconsistencies are explained by the fact that most symptoms are due to peritoneal inflammation by extension, and nothing is more striking than the diverse reaction of the peritoneum to the same variety of inflammation as seen in different cases. In addition, the inflammatory phenomena are dependent on the situation and extent of the lesion, the rapidity of its progress and the changes induced by possible previous inflammation. The majority of appendical inflammations are chronic in nature; and many of the so-called acute cases represent exacerbations, a relighting of a quiescent focus, whose unsuspected presence an accurate history, I am sure, would often indicate.

It is not rare to have demonstrated in an individual the whole pathology of appendicitis, as when a chronic catarrhal appendicitis develops interstitial changes, ulcerates, becomes gangrenous and perforated, and is partially liquefied in an abscess; in chronic cases this sequence is common after months and years. But in the acute cases these same destructive effects are the rule, and take place with extraordinary rapidity, only requiring ten to twelve hours for the formation of a considerable pus collection or purulent peritonitis as adhesions determine. As in other diseases, so in this, nature makes an attempt at conservative resistance by adhesions to localize the inflammation and resulting abscess.

But I have never seen much good from these efforts of nature to cure; for the abscess itself, by its tendency to infect the peritoneum, is a grave menace, and even if the abscess ruptures into a hollow viscus, like the intestine or bladder, the situation is not much better. In this connection it seems advisable to refer to a variety of appendical inflammation which, not dangerous in itself, has been the indirect cause of innumerable deaths; I refer to obliterating appendicitis. Complete obliteration of the lumen of the appendix is the familiar standby of many general practitioners, but it is a will-o'-wisp; it does occur, I admit, but so rarely as to be practically non-existent, and in several thousand abdominal operations I have seen it scarcely a dozen times. The relation to treatment is obvious.

This, then, is a short sketch of certain features of the pathology of appendicitis, and two points in it I especially emphasize: 1. The practical non-existence of any form of inflammation which by obliterating its lumen renders the appendix harmless. 2. The appalling rapidity and suddenness with which the appendix may suffer bacterial invasion and necrotic degeneration with resulting general peritonitis. Forget, if you will, all other surgical pathology, but remember those two facts; upon them is based proper treatment and the justice of claiming appendicitis as a purely surgical affection, and whoever doubts their truth, him I invite to be present at my operations until conviction is forced upon him.

I shall not detail the more minute changes; our patients require pathologists for the living rather than pathologists for the dead—if I may use these terms; they need diagnosticians of disease by the bedside infinitely more than recognizers of morbid tissue at the laboratory.

It is the diagnosis, then, which is of supreme importance; and this ordinarily is not difficult. But first let me utter one word of caution: No frequent disease presents its signs and symptoms in such varied form and locality as appendicitis; make it a rule, therefore, in *all* abdominal cases to first exclude appendical irritation, because careful examination will often reveal as due to it affections otherwise apt to be classed as "entero-colitis," "acute dyspepsia," "cholera morbus," "biliousness," etc.

In all inflammations of the appendix, not entirely chronic, there are three "cardinal symptoms," viz., pain, tenderness, and rigidity; and of these pain is, in every variety, by all odds the most significant, so much so that I regard with suspicion every clinical history with a "bellyache," inflammation of the bowel, neuralgia of the stomach, and affections given in similar terms. But the pain of appendicitis has certain characteristics: above all it is paroxysmal, cramp-like and colicky, and may at intervals almost disappear. As to its locality, it is usually first referred to the umbilical and epigastric regions, becoming localized in the right iliac fossa only after the lapse of several hours, and that not in all cases. It is upon this point that egregious errors have been committed, so many of which I have seen that I should like to have emblazoned upon every house-top this sentence: The pain of appendicitis is neither always nor necessarily referred to McBurney's point; and pain elsewhere by no means excludes appendical inflammation. And if you ask me the reason, I have merely to call your attention to the variability in position of the appendix, the different parts of it affected, and the diverse involvement of the sympathetic nerve plexuses, to make my remark appreciated. For instance, pain and tenderness on the left side are commonly noted, and indicate that the appendix points south—rarely east—and occupies the pelvis; in such cases vesical symptoms are common and occasionally the pain is referred along the course of the spermatic cord, and may even cause retraction of the testicle, as in kidney-stone.

If the appendix is behind the cecum and points north pain may be referred to the back, to the kidney or to the liver, and it is then that skilful examination is needed to elicit, by palpation, the tenderness complained of subjectively. Too often have I seen in consultation, practitioners, after a few ill-directed punches, assert the absence of abdominal tenderness, when careful, deep palpation revealed a small, but exquisitely painful spot in the loin, pathognomonic of appendical disease. In fact, many a doctor, despite sufficient experience, never learns the art of palpation, since lightness of touch and knowledge of what to find are wanting, and thus many appendicitis cases are *overlooked*.

Examine first away from the seat of disease, and slowly and gently approach the tender area. A localized spot of extreme tenderness is probably the surest *indication of pus formation*; conversely, abrupt cessation of such pain is apt to denote complete gangrenous change and paralysis of the peripheral nerve filamen by toxin absorption. In addition to tenderness, palpation determines the presence and degree of rigidity. This is usually well marked and most intense over the inflamed appendix, but sometimes the rigidity of the entire abdominal wall is such as to preclude the possibility of local examination. Other symptoms of appendicitis—vomiting, diarrhea, constipation, etc.— I shall not consider, except to say that in appendicitis the temperature record is utterly untrustworthy and gives no reliable data in regard to pus, which, if encapsulated, may develop quite as well with a normal temperature as with an elevated one. Nor do I depend to any extent on blood examinations; a leucocytosis of over 20,000 usually indicates pus, unless either shut off by adhesions or the individual is overwhelmed by septic absorption. In fact, in appendicitis I have never learned by laboratory methods what was not as surely obtainable at the bedside.

I shall merely refer to the differential diagnosis of appendicitis. In men it is concerned especially with affections of the kidney and gall-bladder—calculi for the most part—while in women uterine and ovarian disorders are added. Occasionally the diagnosis is difficult, but in the vast majority of cases an accurate history, careful palpation and a due regard for the three cardinal symptoms—pain, tenderness and rigidity—readily suffice to distinguish appendicitis from other diseases.

It may be well to allude to the similarity between typhoid and appendicitis when both are in the early stages, and despite the Widal test such cases require much consideration. The slow onset, headache, temperature record, and epistaxis point to typhoid; while in appendicitis the local manifestations are usually more marked. As I have said the symptoms of appendicitis are seldom in proportion to the appendix lesions; let it suffice therefore to diagnose early the inflammatory involvement, which is of itself proper enough indication for rational treatment; and if you ask me what this is to be, I answer: There is but one treatment for appendicitis, viz., the aseptic scalpel of the surgeon, and it should be called upon as promptly as the diagnosis is made.

I know that some will recall cases apparently cured without surgical interference, and I recall them too, for in my experience they were on the operating-table with gangrenous appendicitis and abdomens full of pus, the saddest sights in surgical practice; for the first attack of inflammation creates a locus minoris resistentiæ for the later development of bacterial destruction. Clinical experience, unbiased judgment, therapeutics itself teach the absolute inefficiency of drugs to control or even affect a progressively inflaming appendix, and in the face of these facts medical powerlessness becomes by delay medical dawdling; and when, in appendix cases, I encounter pus, developed in an acute exacerbation after an interval of supposed safety, I realize that some one has blundered—either the physician, in not insisting on operation, or the patient in refusing it. In such instances allowing pus to be present is almost a crime, so easily averted is it by an early operation in itself practically without mortality. In fact I regard the medical treatment of appendicitis as high-grade "Christian Science."

As for the intervals after an acute attack, I consider them as absolute indications for operation. How often has a flourishing life been blighted by blind confidence in their permanence; how often are they but the inception of that quiescent repose that ends in the eternal rest of the grave!

The very history of appendicitis shows the necessity and growing appreciation of early surgical interference, and it is this practice which I both have and shall continue to reinforce with all my strength. It is the duty of our profession not to be scientific merely, not to be experimental alone, but to be life-saving, and this is the especial province of early operation in appendicitis.

DISCUSSION.

Dr. DeLancey Rochester, of Buffalo—I want to say a word from the standpoint of the physician. I agree entirely with all that Dr. Deaver has said, so far as I heard. I regret that I did not hear his remarks concerning the morbid anatomy and symptomatology of the disease. I only wish to add one or two words upon the subject of diagnosis and treatment. I want to make a strong plea for the value of the blood count in the diagnosis of these conditions during the acute inflammatory state and, particularly, during pus development. I have in mind several cases in which the blood count was of great value in determining purulent inflammations. I was called in to see one case during the absence of the attending physician. I was informed that the case was not one for operation, that an operation was not indicated on account of the weak condition of the patient. There was abdominal tenderness which was diffused generally through the pelvis, more particularly in the region of the appendix, and very markedly tender at McBurney's point; there was no tenderness above that point. This tenderness had existed for some time. The family was decidedly opposed to operative interference. Finally, a blood count was made and we found 56,000 leucocytes in a cubic millimeter; I then told them that an operation should be performed. In order to be certain several counts were made in succession, and the number of leucocytes never went below 15,000. An interesting point in reference to the blood count was that the leucocytosis varied with the temperature; with an elevation of temperature there was an increase in the leucocytes and *vice versa*. An operation was performed and an appendicitis was found to be present but complicated with disease of the ovaries. I think that, in this case, the blood count was of value in that it made me insist upon an operation. Dr. Deaver has stated that we may mistake disease of the gall-bladder for disease of the appendix; that they may be mistaken for each other. I wish to relate a case, occurring in the practice of Dr. Stockton, which I saw with him on several occasions. A young woman entered the hospital who had great pain and tenderness over the whole of the right side of the abdomen. The diagnosis made was that she was suffering from gall-stones. A blood count was made, a leucocytosis was found to be present, and it was thought that she had a purulent inflammation of the gall-bladder. An operation was performed, the gall-bladder was opened and pus and gall-stones were found. The patient improved for twelve hours and died within twenty-four hours. At the autopsy it was found that gall-stones had perforated the appendix, and that the patient had died from appendicitis in connection with the gall-bladder trouble.

As regards the treatment I believe that the aseptic scalpel is the only one for appendicitis in cases where it can be used.

Dr. J. V. Kelly, of Philadelphia—I think that, after the first twenty-four hours, a medical man should not attempt to treat a case of this disease. I have never regretted sending for Dr. Deaver, but have regretted not having sent for him early enough.

Dr. Frank D. Smythe, Memphis, Tenn.—I am prepared to agree with Dr. Deaver in toto. My experience in the management of appendicitis bears out the truth of every point he has made. Appendicitis is essentially a surgical disease; and a physician essaying to treat a case of appendicitis without the aid of a surgical colleague should possess considerable diagnostic skill in order that the proper time for operation could be determined. If the diagnosis were made early and the patient subjected to immediate operation you would lose none of your cases of appendicitis. The operation should be performed before the appendix becomes the site of an abscess and before the peritoneum shall have been invaded. At this time the operation can be performed quickly and safely and without risk of contamination of the peritoneum. The operation is a perfectly safe one in the hands of a skilful surgeon—practically without risk if performed promptly after its early recognition.

I have never lost a case of appendicitis when operated upon during the first day of attack. In this disease all cases should be subjected to immediate operation if recognized at the onset and seen by a competent surgeon. During the past year I have operated upon ten cases of septic lymphangitis and peritonitis following gangrenous appendicitis after perforation with 100 per cent. mortality. In none of these cases did I entertain any hope of recovery. I do not believe that a case of general septic peritonitis can be saved with or without an operation; I have never seen a case of this character reported as cured, and certainly have seen nothing of the kind in my practice.

No man can say how a given case of appendicitis will terminate, regardless of the mildness of the symptoms, if treated medically. It is impossible to predict what twenty-four hours will bring forth.

The mortality of appendicitis depends upon where the appendix points in the event of rupture, and not in the least upon the plan of campaign pursued if managed medically. Dr. Deaver has just said that the medical treatment of appendicitis is nothing more nor less than high-grade "christian science," and that the only legitimate way of treating appendicitis is with the aseptic scalpel in the hands of a conscientious and skilful surgeon. I agree with the essayist in every particular.

Dr. J. A. Witherspoon, of Nashville, Tenn.—I have listened with pleasure to the remarks made by Dr. Deaver and my confidence in him has never slackened since he was my teacher. I rise to-day to say that if the medical treatment of appendicitis is to be according to the belief of the "christian scientists," then the man who has a little pain in his belly, with a little temperature and with very few physical signs, who submits himself to operation, that man is as brave as Julius Caesar and has the faith of a Daniel. Now, gentlemen, we, as general practitioners, must realize that appendicitis is both a medical and a surgical disease. There are many cases that are mainly surgical. There are many cases of appendicitis that you and I have seen get well from the medical treatment, by placing the patient in bed, at once stopping all nourishment, applying ice-bags over the appendicular region, keeping the patient perfectly quiet, and using rectal enemas; with such treatment I can see no reason why many attacks of appendicitis will not end in recovery. Take the experience of my friend from Memphis who has just addressed you; he has lost 10 cases from operation. How many have lost 10 cases without operation? I believe that the proper course to pursue in these cases is to let the physician and surgeon go hand in hand; let the surgeon be urged to meet the emergency of perforation or of the abscess. These cases should be carried through the acute attack and, if an operation is demanded, let it be done during the interval. Eighty per cent. of the cases of appendicitis get well without the knife. But, if we can have such a skilled man as Dr. Deaver with us, he may save every case if seen in the primary stage, but we are not all of us fortunate enough to be able to call in Dr. Deaver, or as skilful a man, and every scalpel is not aseptic. We all know that in the smaller places if such extreme views prevail and men often incompetent undertake this operation that many lives will be sacrificed on the altar of fanatical surgery.

Dr. Boardman Reed, of Philadelphia—I agree with Dr. Deaver in the main, but I can not agree that at all times and in all places the aseptic knife is the only remedy in appendicitis. I agree, however, that in large cities, in hospitals with their skilled abdominal surgeons, with trained nurses, and all the paraphernalia and conveniences for clean and good work, that an operation performed on the first day, and perhaps on the second day, would be the most conservative; but, if in the country far from any hospital, from skilled surgeons and trained nurses, etc., I believe that we must then think of other remedies besides the knife. If one can not get a trained surgeon and if the case has gone on to the third day I think it is sometimes safer to treat the case conservatively by rest, poultices and starvation and help perhaps from laxatives, calomel, or opium, than to resort to surgery.

I wish to say a word in regard to the chronic cases of appendicitis. Here the main thing is to prevent. It is a well-known fact that most of these cases do not arise from concretions, or seeds, as was once thought, but from an extension of a catarrhal process involving the colon, chronic, insidious and often unrecognized. I think the symptoms that precede chronic appendicitis are not frequently enough recognized. They nearly always include, vaguely, impaired health, constipation or diarrhea, anemia, a lowering of the strength, general malaise, etc., symptoms which give a warning that something is wrong. The patient then does not need so much a surgeon as he does a skilled clinician, one skilled in palpation, skilled in recognizing the early signs which tend to cause catarrh of the appendix. Besides recognizing the catarrhal condition in the bowels, besides palpation and recognizing the tender spots over the involved portions of the intestine, a more rigid condition of the muscles on the right side of the abdomen can usually be made out and there are also signs to be discovered in the urine which will aid us in making a diagnosis if in doubt, i. e., the presence generally of indican or the aromatic sulphates, or both, together with an increased total acidity of the urine.

Dr. I. N. Love, of New York City—We all know what the position of Dr. Deaver has been and that it is a definite one; we all know the position he has held for a long time. We also know the position held by Robert T. Morris, and other experts, from a surgical standpoint. If we who are specialists in internal medicine study the question carefully, we must study it from both the standpoint of medicine and surgery. We must study not the theory but the conditions confronting us. Every case is a law unto itself. In every suspected case of appendicitis it is highly important that a competent physician, a good diagnostician, be called in early. We all know that every case of cholera morbus, every case of catarrh of the bowels, every case of ptomain poisoning, or suspected typhoid fever, every case of abdominal disturbance in fact is a possible case of appendicitis in disguise. Speaking of symptoms, whenever I have been called to see a case giving evidences of the disease along these lines I have observed that rigidity of the right side of the abdomen is a fairly positive symptom. Nature is placing a splint upon the disturbed bowel by making rigid the abdominal wall. Tenderness at a given point goes without saying. If the irritation be discovered early enough we usually assist Nature by emptying the canal and placing the patient at once at rest, starving them, placing an ice-bag over the seat of the trouble and then have an ideal surgeon constantly in attendance, ready to meet any emergency that may arise. If no emergency arises then we should continue to treat the patient along the lines indicated, and an operation can be done at our pleasure. In my own judgment operation should be done through fear of recurrences, although a patient may escape such recurrences. If the conditions are ideal, and if Deaver, Morris, Price, or other well-known abdominal surgeons could be had, even if it was at the country crossroads, I think an operation may be done; but in an average case of appendicitis I would trust to quiet, diet, starvation, ice-bags, and time.

Dr. William Bailey, of Louisville, Ky.—From the standpoint of the general practitioner, I heartily approve of all contained in the paper read by Dr. Deaver. In doubtful cases I am always ready to have an exploratory incision made for the purpose of clearing up the diagnosis. I have no confidence at all in the medical treatment of this disease. I make this remark in the face of the fact that many cases do recover without operation; so far as I know, they did not recover through any virtue of the treatment employed. I can recall cases of appendicitis that were not operated upon, that have gone for more than forty years without recurrences of the attack; but I have seen so many that did not come on after any catarrhal condition but as a thunder-bolt in a clear sky and in twenty-four hours were in an inoperable condition. In cases of doubt as to diagnosis I am always ready for the surgeon to make an exploratory incision. I do not believe that such an incision is a factor at all in the cause of death in such cases. I doubt very much the reports made in the papers that the patients died from the surgical operation; they died from disease which surgery was not able to relieve. I do not believe that any case, no matter what the conditions are, can be operated upon too soon, and I doubt if it is ever too late for operation.

Dr. C. W. Lillie, of East St. Louis, Ill.—To illustrate how rapidly an apparently latent case of appendicitis may develop, I wish to relate one in which I have been particularly interested, occurring in my only son. This young man, 21 years of age, robust, hearty, a football player and a general athlete, appeared all right at noon, but one-half an hour later, during my absence, he was taken with severe pain in the abdomen, which at once showed the place of development of a hernial tumor; my attention was called to that when I returned one-half an hour later. I was not aware that the young man ever had a hernia. When my attention was first called to it signs of collapse threatened and I feared that the young man would die from some cause apparently unaccountable to me. I had him taken to the Jefferson hospital in an ambulance. While in the ambulance on the way to the hospital the tumor entirely subsided and the pain disappeared, so that on arrival at the hospital he walked up one flight of stairs to his room, and operation was deferred until the day following. Twenty-four hours after the first advent of pain he was operated upon by Dr. Waldo Briggs, who found that he had to deal with about 5 inches of the ascending colon which was gangrenous, and that 4 or 5 inches more of it was in such a congested condition that at least 8 inches must be resected; fully 5 inches of the ileum was also in a partially necrotic condition and the entire 13 inches of the intestine was removed. The appendix had sloughed off in nearly its entire length. Resection of the bowel was done, the ileum and the colon were joined by the Murphy button and the patient made a good recovery. The points of particular interest in this case were the suddenness with which the alarming symptoms came on and the complication of a hernia which alone was believed to be the real trouble. As a result of this I am of the opinion that we should never allow our cases to go too long without operation. Since the occurrence of this case I have had another which happened in a hearty young man; within a few hours after its development an operation was done and there was found a gangrenous condition which with a few hours more delay would have necessitated an almost similar operation.

Dr. H. S. McConnel, of New Brighton, Pa.—It seems to me that we are not recognizing the fact that there are two treatments of appendicitis, the medical and the surgical; when the general practitioner is called to see a case he considers it a medical case, but for him to treat every case of pain in the abdomen as one of appendicitis I think is a great mistake. I think it is his duty to treat every case of pain in the abdomen unless he is positive that he has a case of appendicitis to deal with. One should bear in mind that there is not always a rigidity of the rectus muscle nor pain in the right side, for often they are on the left side of the abdomen. There is no doubt in my mind but that a severe case of appendicitis should be operated upon so soon as diagnosed. I have seen men come here who preached that we should wait twenty-four hours before resorting to operative interference; but I think that if the patients were treated, as they should be, with ice, saline solutions, etc., we will not make many mistakes.

Dr. Frank Warner, of Columbus, Ohio—I believe that there is but one time to operate in cases of appendicitis, and that is when the diagnosis is made, and the best way to make that diagnosis is by the presence of pain, tenderness and rigidity over the region of the appendix. Whenever these symptoms have arisen I must take issue with Dr. Love when he makes the statement that "then an operation can be done at our pleasure." Again, I do not approve of the method referred to by the gentlemen who preceded me, that we should wait awhile. After the diagnosis is made I think we would make an egregious error if we did not proceed at once to operation for the reason that we do not know what one of these cases will develop a gangrenous appendix. After diagnosing a case, if you wait even over night either your operation is a useless one or else you have added greatly to the danger. It has been stated that we can not all secure the services of the greatest surgeons to operate for us; I think that any man, with a moderate degree of ability, is capable of doing this operation and with less danger to his patient than if he either waited for the presence of a great surgeon who is long in reaching the patient, or resorted to medical treatment. With pain, tenderness and rigidity present, and the diagnosis settled, we should decide at once to operate, and I do not believe in wasting time because every day added to the postponement of the operation adds to its death-rate.

Dr. A. F. House, of Cleveland, Ohio—If there is any general practitioner in the room who will point out to me how to discriminate between the so-called medical cases and those that are surgical, I will be greatly obliged to him. In my experience with these so-called medical cases of mild degree, after a certain time, may come an explosion, as it were, and the case becomes a fulminant one, and the patient died; I have never yet seen a case that terminated fatally from too early an operation, while I have seen many cases that have died because they were operated on too late. I am glad to be able to support the opinions expressed by the essayist.

Dr. Wm. M. Findley, Altoona, Pa.—I rise simply in the interest of the 20 per cent. You that were present at Atlantic City last year heard an able discussion on appendicitis and you remember that Dr. Senn made the statement that 80 per cent. of the cases recovered without operation. I rise in the interest of the 20 per cent. Personally, I would not like to be one of that 20 per cent. I do not believe that the medical profession need have 20 per cent. of deaths from this disease. The records of gentlemen who are not connected with hospitals and who operate in the homes and hovels in the country give a better record than 20 per cent. of deaths when the operation is performed early, at the time the diagnosis was made. I have recently heard it stated here that operations are performed upon cases of appendicitis thirty-six hours after the diagnosis is made, and this, too, in the cities. I certainly believe that, in the cities where there are hundreds of surgeons, that these cases should be operated upon at once. In the little town where I live the death-rate during this past year was about one per cent. where the cases were operated upon within twenty-four hours; but, after thirty-six hours, I do not think such a good result can be obtained. I sincerely hope that the medical men of the United States will get away from that 20 per cent. death-rate in appendicitis.

Dr. George F. Jenkins, of Keokuk, Iowa—There are cases of appendicitis that should not be operated upon, and I think it is absolutely wrong to operate upon every case so soon as the diagnosis is made. If the treatment is carried out in certain lines—rest, salines, ice-bags, etc.—and if the treatment is commenced early enough you will not be compelled to resort to operation in all cases. Operation is always indicated when suppuration occurs. Dr. Deaver says that no physician can foretell the danger in any case, and hence he would not take the responsibility of treating even a mild case unless permitted to operate immediately. Does he say to the patient: There is no danger in operating, I will certainly cure you? No; he is still unwilling to take the responsibility, but says: If you will take the risk, I will do the cutting. Every case should be treated either medically or surgically, according to indications present. Responsibility rests equally upon the physician, whether he chooses to operate or not to operate.

I claim that we should always treat the man who has pneumonia, not simply treat the pneumonia, and I insist that, for the same reason, we should always treat the individual case of appendicitis, and not simply treat appendicitis. Routinism is as reprehensible in surgery as it is in medicine, and hence I am opposed to cutting in every case of appendicitis.

DR. J. M. SPELMAN, of Anaconda, Montana—I desire to say a few words because I find that the gentlemen who live in the Ohio and Mississippi valleys find it difficult to secure a skilful surgeon. In Montana it is impossible to get Dr. Deaver, or any other noted surgeon out there; it is impossible to do anything but take right hold of these cases yourself and, I promise you, we do it. We find no difficulty in performing operations for appendicitis, but we do find difficulty in treating them on medical lines. It seems to me that the discussion that arises year after year in the American Medical Association does us more harm than good, because it often has been the cause of delay in cases that required immediate operation; the idea has become prevalent among the people that operation should not be performed at once and so they will not allow it sufficiently early. I feel that this operation is as much an emergency operation as tracheotomy or herniotomy as we were formerly impressed and that every good practitioner should know its technique.

DR. W. H. CHRISTIE, of Omaha, Neb.—As a general practitioner, I wish to speak briefly. Gambling, whether done as a private individual or as a professional man, is a bad business so far as the pocket-book is concerned in the former and one's standing in the community in the latter. These patients that died from the operation when it was performed in the latter stages might have lived if they had been operated upon at an opportune moment. Waiting before operating is gambling with human life. We can not tell, nobody can tell, what is going to happen when the appendix becomes diseased. Therefore, I do not believe in gambling with human life; we should urge operation immediately, as soon as the diagnosis has been made.

DR. JOHN B. DEAVER, of Philadelphia (closing the discussion)—So far as the value of the blood count is concerned I do not question it, not for one moment; but, where there are no facilities for such work, and where time is necessary in order to profit by such an examination, causing delay, then I am opposed to it; the patient's welfare will not admit such a delay.

I can not agree with all that has been said relative to the medical treatment of appendicitis. In cases that have recovered from an attack I believe that it is wiser to operate between attacks than to wait till another attack is ushered in; operate in the interval. I do not believe that there is a man living who can tell whether A., B. or C. can recover.

I maintain that it is all right for a surgeon, if properly trained and an anatomist, with experience and common sense, and with the facilities for operating, to operate so soon as the diagnosis of appendicitis has been made. I also maintain that the surgeon is better able to read the conditions inside the belly than a medical man.

I wish to congratulate Dr. Bailey; with his silver locks, he can teach all of you; I admire a man at his time of life who is abreast of the times, and I pray that we may have him with us for many years to promulgate views such as he has to-day, which must accomplish much good.

PRELIMINARY WORK.*

EUGENE S. TALBOT, M.D., D.D.S.

CHICAGO.

Many years ago it occurred to me that physicians could follow generally with advantage both in pathology and physiology the example of neurology and study the human body from the standpoint of both its embryonic and post-uterine evolution and from the standpoint of its degeneracy as well. It was long recognized that health simply constituted a balance and that disease meant the destruction of this balance with resulting undue predominance of some healthy function and the undue depression of others. Practically the same rule is followed by the chemist who controls his analytic experiments by his synthetic, and vice versa. Physicians and dentists generally in studying man as an entity, view the differences between the normal and the abnormal as of kind and not of degree. To avoid this error, I have studied the degenerate phases of man from the standpoints of etiology, physiology, and lastly and most important from the standpoint of embryology and post-uterine development periods. The result of these studies has been the general discussion of degeneracy as a phase of evolution, in "Degeneracy: Its Signs, Causes and Results," published in London in 1898. The local degeneracies either as an expression of general advance or its reverse have been outlined in my works upon "The Etiology of Osseous Deformities of the Head, Face, Jaws and Teeth;" "Irregularities of the Teeth and Interstitial Gingivitis or so-called Pyorrhea Alveolaris;" "Degeneracy of the Alveolar Process." It is now my intention to discuss one of the most important of local degeneracies so far as dentistry is concerned: Degeneracy of the Pulp. Last winter I arranged with Chicago dental surgeons that extracted teeth should be saved for me. My assistant collected from their offices every afternoon at 4 p.m. The teeth were then cracked open at my office, the pulps removed and placed in Müller's fluid and 1 per cent. formalin before 6 p.m. From 1958 teeth obtained, 1017 pulps were removed. Macroscopically the pulps were thus divisible: Normal, exposed, inflamed and suppurating, mummified, calcified and calculous; fungoid, with exostosed roots; loose teeth abrasion; pulps destroyed with arsenic and deciduous teeth pulps. Sound erupting third molars and bicuspids extracted in regulation had been placed in Müller's fluid ere they came under my observation.

In nearly every case the pulp could be lifted out of its chamber so far as the apex of the root. In every case, the root had to be crushed before the pulp could be detached. Pieces of the cementum almost invariably adhered to the pulp, which required considerable force to detach. The slight adherence of pulps to the chamber was due to anatomic construction. This peculiar relation of the pulp to the walls of the canal becomes obvious when attempts are made to remove it in single-rooted teeth, after application of arsenic. The nerve broach not infrequently carries the pulp with it in passage toward the apex. The pulp often comes out in doubled-up contracted mass. Sometimes it comes away in pieces. and sometimes the pulp is not entirely detachable from the end of the root. The claim that pulps immediately removed from the teeth after extraction adhere to the wall of the canal is not borne out by experience. If nerve fibers radiated from the pulp and extended into the dentine it would be impossible to remove the pulp from its chamber. The pulp, however, can not be removed from the end of the root without breaking; it therefore seems evident from a macroscopic standpoint that nerve fibers as such do not enter the dentine. In removing the pulp it always remained *in toto* on account of the strong connective tissue.

A point of great interest in connection with pulp adhesion to the root is that not only the degeneracy of the pulp, but also of the tooth likewise. In development of the tooth, calcification begins at the crown and extends toward the apex. Calcification takes place at the periphery of the root and extends toward the center. A marked opening results with a large primitive organ (the pulp) until the apex is reached, when it closes. This closing often continues after the crown has erupted. The foramen is almost completely closed. What was

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* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

to buy every book published in his own branch, since so many are merely reiterated statements, by worthy investigators, not brought up to date or not original. Owing to the scarcity of accessible works even in the majority of our large central cities, the task of "looking up literature" is by no means easy or worthily done, oftentimes many essays and papers scattered through the numerous journals being out of reach. Better libraries are needed.

Perhaps the earliest mention of the dental pulp is by Galen,[1] who states: "He felt the pulsation in a tooth that was aching in the same way as any other inflamed part. I know that the seat of one pain was in the tooth and the other in the gum." "To Galen we may also ascribe the discovery of soft nerves supplied to the teeth."

In 1771 John Hunter noted the building up and closing in of the pulp cavity when attrition has worn the teeth, as did George Prochaska (1780) in his work published in 1800. Besides these, we may note Thomas Bell, Bertin Rousseau, Lent, Raschkow, Richard Owen, Alexander Nasmyth, Kölliker, R. T. Hulme, E. Albrecht, R. Hohl, J. Bruck Junr, F. Ulrich and many others, whose papers chiefly relate to calcifications in the pulp and pathology.

About the earliest histologic point I have found so far seems to be by Paul B. Goddard,[2] who described the pulp as composed of granular matter invested by a delicate membrane or epithelium.

Prof. L. S. Beale, in 1865, states the pulp tissue is not converted into dentine, neither does the dentine, nor tissue from "which it is formed, exhibit any characters justifying in stating it to be connective in origin. Dentine is only produced by the agency of the so-called cells." The mass of the pulp is composed of a single form of connective tissue with numerous oval and triangular corpuscles (germinal matter) not unlike the mucous tissue of the umbilical cord. This will seem to be foreign to the title of this paper, but I find in almost all articles the close relation of dentine and its histology and origin the chief topic.

Kölliker[3] summarized the dental tissues in one of the first text-books, which held its place for many years. The odontoblasts were formally termed "dentinal cells" (Elfenbeinzellen). Kölliker termed this entire layer of cells *membrana eboris,* because after the pulp has been withdrawn it usually cleaves to the inner surface of the tooth in the form of a continuous membrane-like layer. Kölliker, Klein and others, state that odontoblasts excrete dentine, differing from Waldeyer, who has a most complete and satisfactory theory as regards the development of the teeth. He also makes mention of Sharpey's fibers being formed in the cementum, and agrees with Boll that the odontoblasts (a term originating with Waldeyer) send fibers and connect with each other by lateral processes. He also edits the article on "Formation of Dentine,"[4] which formed the basis of a controversy with Prof. H. Hertz in *Virchow's Archiv,* and was used by Franz Boll in order to explain the contradictions of the two investigators and so form an independent opinion.

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R. R. Andrews[16] states that odontoblasts in forming once a large pulp containing nerves and blood vessels tapers down to the minutest size with but only one or two blood vessels and nerves remaining. In the lower mammals teeth have open ends with large pulps. These furnish sufficient nourishment to the teeth and resistance to decay. Of the 1017 pulps collected 131, or 11.9 per cent., were more or less mummified. While no special attempt was made to determine the extent of mummifaction, 75 per cent. of the 131 seemed mummified. The remainder had varying degrees of mummifaction beginning at the apical end. The extent of bloodletting at the time of extraction governed the degree of mummifaction. The question further arises, What amount of blood did the pulp contain at the time of extraction? Did the closure of the apical end of the root cut off the blood supply? It is certain that teeth with mummified pulps were hard, dense and comparatively difficult to crack. In pulps partially mummified there was a demarcation between the part filled with blood and the dried end. In the dried end, mummifaction was complete. The dried specimen was removed from the end of the root with as much difficulty as the normal pulp, while the main part could be readily lifted out of the chamber as there was no adhesion. The pulp can become completely mummified in six to twelve hours. All the teeth from the same mouth were sometimes mummified. The pulps in abraded teeth had receded and been almost obliterated. Recession is sometimes followed by obliteration of the pulp chamber. In most cases, the filling of the pulp chamber does not follow. Blood supply is almost if not quite exhausted. In cases where the roots were exostosed the pulps were often almost obliterated with corresponding filling in of the pulp chamber. In other cases mummifaction of the pulp occurred. There were seventeen (1.5 per cent.) calcified and calcalous pulps. In some the tooth had to be completely crushed to remove the calcified mass which had adapted itself to the walls of the cavity. In others the pulp could be removed in its entirety, so complete was the calcification inside the pulp inself. There were four fungoid pulps of 1017 pulps. In all four, pulp stones could be felt. The percentage of minute pulp stones can be determined by the microscope alone.

In interstitial gingivitis, where the alveolar process has receded and the roots of the teeth have been exposed for some time, the pulp recedes and the canals become filled with dentine. Although the pulps are alive, the substance in the tubuli decomposes and the odor is more penetrating than that from dead pulps. The dentine becomes dark and twice as much force is required to break open the tooth than in the normal variety. These teeth are brittle and fly to pieces, while the normal tooth splits lengthwise.

The tooth is the lowest structure in the body since it is formed of material which can be destroyed by disintegration only. The pulp is a temporary organ, having attained its normal size and hence been at its best when it commences to form the dentine. The apical foramen is largest in the lower vertebrates. Pulp stones or secondary dentine are the commencement of degeneracy. No lymphatics (Sudduth) exist in the pulp, since it is a formative as well as a degenerative organ. One hundred and thirteen, or 11.1 per cent. of the pulps examined, were exposed, infected with pus infection and sloughing. The inflammation sometimes extends throughout the entire pulp. Sometimes one part or side only is affected. In the case of a molar, inflammation often extends upon the side of the pulp and into one root. The other side of the pulp root or roots remains normal or is but slightly affected.

These teeth and pulps were turned over to Drs. Latham and Anderson for cutting, staining and mounting for the microscope.

THE LITERATURE OF THE PULP.*

VIDA A. LATHAM, M.D., D.D.S., F.R.M.S.

CHICAGO.

In reviewing the work done on the dental pulp, it appeals very strongly to the operative side. In other words, the majority of the papers concern themselves with the pathologic conditions, which include special and general pathologic states from inflammatory to degenerative, and bacteriologic gangrene to formation of pulp-stones and the treatment of the same. One noteworthy point is the constant effort directed to the "killing of the pulp" by every known means and the very little encouragement to try to save the "formative organ." In these days of advancement of the histophysiologic research and the introduction of new methods and chemicals, it seems strange the dental-pulp appears to have been considered as either completely worked out or not so important an organ as enamel or dentine or even the peridental membrane. Yet its development, structure, functions and variations are hardly understood—and we expect to cure its ailments. It is true a great deal has been investigated and many essays and papers presented from all parts of the world, but very little truly scientific work has been completed. Take the latest works on dentistry and see in what small space the dental pulp is mentioned and the debatable points occurring in almost every line. Even the dentine seems to be of greater importance, and yet the question may be asked: "Should we have a dentinal layer if the pulp were not formed early and were not of primary importance as a formative papilla for its development?"

In this paper, so far as possible, references to the operative treatment of the pulp have been excluded, and in considering the anatomy, histology and especially the development of the pulp, many authors have described the neighboring structures of odontoblasts, dentine and enamel, it being impossible to separate them wholly from the pulp. Anyone wishing to study the latter must be willing to examine also the former.

Dentists are now waking up to the fact that we must have more preliminary training in the elementary branches, and schools of dentistry are constantly improving. It would be a worthy object to found grants, scholarships and opportunities for original research work to post-graduates or advanced workers, instead of such memorials as oil-paintings, busts, etc. The former would carry far more weight, would perpetuate memory in a nobler way, and reach to almost every clime and class by constant quotation, thus enriching science and benefiting thousands of suffering humanity. How many libraries contain works on dentistry accessible to the student that are of recent date or valuable in looking up the subject? It has been said that publishers object to giving the large medical and scientific libraries a copy of a book for fear of lessening its sale. Personally, I think this objection should not be sustained, as many people who note a new book in a library or store, finding it suited to their needs will buy a copy to have at hand. Hardly any one man (even if he could afford it) cares to buy every book published in his own branch, since so many are merely reiterated statements, by worthy investigators, not brought up to date or not original. Owing to the scarcity of accessible works even in the majority of our large central cities, the task of "looking up literature" is by no means easy or worthily done, oftentimes many essays and papers scattered through the numerous journals being out of reach. Better libraries are needed.

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* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

Perhaps the earliest mention of the dental pulp is by Galen,[1] who states: "He felt the pulsation in a tooth that was aching in the same way as any other inflamed part. I know that the seat of one pain was in the tooth and the other in the gum." "To Galen we may also ascribe the discovery of soft nerves supplied to the teeth."

In 1771 John Hunter noted the building up and closing in of the pulp cavity when attrition has worn the teeth, as did George Prochaska (1780) in his work published in 1800. Besides these, we may note Thomas Bell, Bertin Rousseau, Lent, Raschkow, Richard Owen, Alexander Nasmyth, Kölliker, R. T. Hulme, E. Albrecht, R. Hohl, J. Bruck Junr, F. Ulrich and many others, whose papers chiefly relate to calcifications in the pulp and pathology.

About the earliest histologic point I have found so far seems to be by Paul B. Goddard,[2] who described the pulp as composed of granular matter invested by a delicate membrane or epithelium.

Prof. L. S. Beale, in 1865, states the pulp tissue is not converted into dentine, neither does the dentine, nor tissue from "which it is formed, exhibit any characters justifying in stating it to be connective in origin. Dentine is only produced by the agency of the so-called cells." The mass of the pulp is composed of a single form of connective tissue with numerous oval and triangular corpuscles (germinal matter) not unlike the mucous tissue of the umbilical cord. This will seem to be foreign to the title of this paper, but I find in almost all articles the close relation of dentine and its histology and origin the chief topic.

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R. R. Andrews[16] states that odontoblasts in forming the matrix of dentine give out minute globular bodies which form a layer of calcoglobulin, not being themselves any part of the matrix. The fibers within the tubes are formed from a separate cell, deeper in the pulp tissue, whose processes pass in through the protoplasmic mass of the odontoblasts to reach the dentinal tubes of the formed dentine.

BLOOD SUPPLY OF THE PULP.

Bödecker,[17] in discussing Mr. Witzel's work, says: "I have not been able to see an artery in a pulp as illustrated, though I will not say there may not be one." So far, he has only met with capillaries. Arteries go into the pulp and divide at once upon entering it. In fetal pulps, a number of arteries are seen extending to the base of the tooth, but on entering are only seen as capillaries.

Dr. W. H. Atkinson[18] says that no embryologists will state there are three coats on the vessels in the pulp; the large vessels are sinuses.

Dr. A. O. Hunt[19] notes Dr. Patrick's demonstration of the methods of blood supply to the follicle of the developing tooth. Specimens were prepared as follows: Injections of gelatin carmin were made through the carotid artery; sections cut from the jaw were put into absolute alcohol and ground down, no water being used, only alcohol to keep them wet. Examination of these specimens showed that the blood supply of the tooth did not pass directly from the artery through the foramen but was distributed through the cancellous bone by a number of small branches and all along the peridental membrane by a system of capillaries. He believed the nerves did not pass directly through the foramen but by a circuitous route accompanying the blood current. All the blood vessels stopped on the outside of the membrane and the supply was there taken up and distributed by a system of capillaries. A fetal (eight months) tooth showed this clearly and he thought it true of the developed specimen. He doubted the old theory that the artery and nerve fibers entered the foramen directly, and he also thought the office of the peridental membrane was simply to sustain what it has built up. In other words, the artery breaks into capillaries, passes into the cancellous bone about the teeth, is distributed to the peridental membrane, from it to the pulp through the apical foramen or a number of foramina in the root.

Black,[20] in discussing the above paper, agreed with Dr. Hunt in the statement that no direct branch from the dentinal artery enters the apical foramen and supplies the pulp as depicted in so many text-books; but that many arteries, branches from the main dentinal arteries, are distributed to the bone of the alveolus and the peridental membrane, forming a network which gives off branches that enter the dental foramen and supply the pulp. "In children you will find half a dozen, and before the root is fully formed you will find hundreds of them entering the pulp from all directions, but as the foramen decreases in size they are shut off until there is but one."

J. Leon Williams[21] describes the blood supply of the pulp as coming from two sources, namely, the pericementum and the medullary canal, and has observed in recently developed teeth small blood vessels passing from the pericementum through the side of the root into the pulp; also he notes an "intricate plexus of very fine blood vessels in the odontoblastic layer of cells."

H. H. Burchard[22] believes (though he has not demonstrated) that the pulp has an extensive collateral circulation, the branches of the inferior dental arteries anastomosing freely with the branches of the external maxillary, facial, coronary, mental, submental, sublingual, gingival, internal maxillary and its branches, other than the inferior dental. Cryer's dissections showed that in the lower jaw the inferior dental artery is the main supply.

In the embryo, as early as three months, a blood supply in the dentinal papilla is evident, vessels showing in the dentinal papilla (the future pulp) before the follicular walls (in part the future pericementum) is outlined. "When the dental tissues proper begin to form, the follicles lie in a gutter of bone, their bases (the future necks of the teeth) separated from the bone by a comparatively thin layer of fibro-vascular tissue in which lie the inferior dental vessels. At this stage, numerous arterial trunks are seen passing into the immature pulp." At seven months, the lateral blood supply (from the periosteum) is more marked than that from the base of the dentinal papilla and quite distinct from the vascular supply to the pulp. Bone forms around all the arterial trunks enclosing them, the vessels being at first enclosed by indifferent tissue, this becoming fibrous and finally ossification taking place.

Hertwig's "Embryology" describes the visceral arches at an early stage in the development of the ovum, and states that differentiation of the tissues of the visceral arches into bone, muscle fascia and glands, changes the anatomical relations of the arteries originally supplying the arches.

Burchard's conclusion is that the pericementum is supplied from arteries which enter the apical space in several branches from the dental arterial trunks and that there is free anastomosis with the vessels of the alveolar walls. The pulp is supplied by several trunks from the dental arteries. In case of obliteration of these trunks collateral circulation is established through the vessels of the pericementum and alveolar walls.

NERVE SUPPLY OF THE PULP.

Retzius investigated the endings of the pulp-nerves in fishes, reptiles, amphibians and mammals. He used the Golgi method and traced the nerve fibers to their terminal fibrillæ, which appeared under the dentine or on the free surface of the pulp, occasionally in the teeth of young mice, running between the odontoblasts and the dentine, but never into the dentinal tubules.

Huber[23] studied the nerve supply of the tooth pulp in dogs, cats, and rabbits, employing the *intra vitam* methylene-blue method of staining. He demonstrated that medullated nerve fibers going to the pulp in large bundles break up into small bundles which anastomose and form a plexus in the fibrous tissue membrane covering the under surface of the pulp. From this plexus smaller bundles of medullated nerves pass perpendicularly into the pulp and can be traced "to all levels of the pulp, some of them to the very tip." Besides these, many medullated fibers leave the bundles and approach the surface of the pulp near the lower surface of the odontoblastic layer, losing their sheaths or breaking up into branches, which are non-medullated with varicosities and nuclei and which branch and interlace with each other, forming a network under the odontoblasts. Terminal fibers given off from this network pass up between the odontoblasts and terminate in fine granules near the free ends of the odontoblasts. Somewhat rarely the fibers may be found crossing over the odontoblasts and ending between the odontoblasts and the dentine. In these findings, Huber coincides with Retzius and he states positively that he found no nerve fiber in the dentine and no fiber connected directly with the odontoblasts or with any other cell elements of the pulp. "The terminal fibrillæ or fine branches given off from them terminate in free endings between the odontoblasts or between these cells and the dentine and are not in connection with the dentinal fibrils directly or through the odontoblasts."

Morgenstern[24] endeavors to establish principally certain special points: 1, innervation of the blood vessels; 2, relation of the axis-cylinder to various cellular components; 3, the nerve endings; 4, structure of the nerve plexus beneath and within the odontoblastic zone.

1. The innervation is enormous. All the arteries, even the finest arterioles, exhibit an extremely fine and elaborate plexus. In the larger blood vessels, it shows a very regular arrangement of the fibers, one set running parallel with the blood vessels and another at right angles to them. In this way, each nucleus is made to rest, as it were, in a network of nerves. One or more axis cylinders are frequently found with the finest capillaries, not uncommonly embracing these spirals. This was especially easy to prove in the crown pulp of a calf. Morgenstern found similar formations in dentine that had been treated by the corrosive sublimate method (Golgi), and had afterward been colored with hematoxylin. The larger nerve fibers have Ranvier cells at fairly regular intervals; the finer ones have few cells or none at all, although they have many knobby enlargements, which appear in the finest fibers only as points.

2. Nerve endings in the pulp are difficult to determine as one can never assert with absolute assurance that where a nerve fiber appears to terminate, it does not really continue in some other direction out of your field of observations. I believe they terminate as free fibers, especially when they divide like a brush into a number of very fine threads. Many axis cylinders end in small knobby enlargements beyond which for the most part a very fine, short thread extends.

3. Between and below the odontoblasts the nerves frequently terminate in rounded cellular bodies, which could be better shown by another method, by means of which they are brought into sharper contrast with their surroundings. These bodies are identical with the terminal discs described above, we assume. Whether the nerves extend throughout the entire odontoblastic zone—a most important question—could be answered positively by Bethe's modification of the methylene-blue process. In the so-called horns of the pulp, more correctly the crest, the nerve fibrils are universally present between the elementary cells which are but imperfectly united to form odontoblasts. These nerve fibrils lie in close parallel lines and send out a large number of lateral branches, between the elementary cells which are side by side in rows. The fibers show by their marked blue tint and by the fact that they spring from the primary nerve fibers, that they are integral constituents of the nervous system which extends throughout the pulp. Dentine germs from human and animal fetal jaws treated by the anilin-blue methods of Ciaglinsky and others (Stroebe) showed the fibrils of Weil's zone to be colored blue, like axis cylinders, but that the dentinogenous substance was likewise colored blue. Where odontoblasts had been formed there was often seen narrow transverse strips of blue tint,[25] by which the odontoblasts seemed to be derived into segments.

Erwin Hoehl also saw this appearance but correctly explained them as fibrils of the intercellular network of nervous elements and this can be proved by the methylene-blue method, and Nikiforoff, also Morgenstern's formic acid was peculiarly efficacious. That cells which belong to the nervous system do occur between the odontoblasts is proved by preparations made with methods two (2) and six (6). The peculiar chemic and optic properties of the odontoblastic zone serve to explain why the morphologic constituents are so difficult to recognize both there and in the membrana præformativa. The nearer the odontoblastic zone approaches the dental process the more thoroughly does it seem to be filled with a hyaline substance which opposes an almost insurmountable obstacle to all investigations.

Whether ganglion cells occur in the pulp is perhaps answered by the methylene-blue test to the extent that remarkably large cells connected with at least two nerve fibers occur, especially near the larger blood vessels, that is, in the axial portion of the pulp.

SUMMARY.

1. The nerves of the pulp are divided into central and parietal nerves according to their location. The nerve branches of the parietal system are more slender, but much more numerous than those of the central. They are spread in two directions, axial and radial, the former following the long axis of the tooth, the latter that of the dentine canals.
2. Although belonging to the parietal system, its outermost stratum forms a system in itself.
3. More strongly developed nerve fibers of the central system form no proper plexus in the pulp; those of the parietal system form temporarily in the young pulps a plexus.
4. Medullary sheaths of the pulp are secondary formations only determined positively in teeth that have been cut.
5. Odontoblastic zone is transversed in the most varied directions by nerve fibers.
6. Nerve fibers terminate in several ways: *a*, free in the pulp; *b*, knobby enlargements with projecting supplementary fiber; *c*, disc bodies frequently seen in the odontoblastic zone.
7. In the central part of the pulp are some very large cells which may be considered as ganglion cells.
8. Different varieties of endings occur even in the enamel.

These remarkable results of Morgenstern's have been questioned by Röse, who thinks it a precipitate in the dentinal tubules and on the processes of the odontoblasts.

Dr. W. G. Aitchison Robertson[26] says "the odontoblasts in the teeth of oxen are bipolar, one process being a dentinal fiber and the other continuous with the nerves of the pulp. He thus regards the odontoblasts and dentinal fibers as becoming in course of development the terminal organs of the nerves of the tooth. These facts and the development of the dentine were made on the teeth of rabbits and kittens, in the former taking advantage of the aid given by feeding the animal for a time on food containing madder, which stains the dentine matrix produced while the madder is being taken just as it does the matrix of bone. The elongation of the dentine results from proliferation of connective tissue cells in a formative ring at the base of the tooth follicle. The thickening of the dentine results from new layers of matrix added from within under the influence of odontoblasts, not from interstitial growth which produces nothing more than a slight increase in matrix between the dentinal tubules in the crown of the tooth." To the question whether the nerve passes as a main fiber from the trunk nerve direct through the foramen, or are the nerves in the pulp continuous with the nerves in the pericementum, statements have been made that if the nerves extended through the foramina the broken nerve would be seen extending beyond the end of the root, which is never the case! If anyone will take the pains to examine the teeth as soon as extracted examples can often be seen with a projecting pulp or nerve (?) varying from one-sixteenth to one-eighth of an inch in length, some times even more. They appear as whitish threads coming from the apex, especially in cuspids, incisors and bicuspids, blanched on account of the sudden rupture and hemorrhage. Unless noted at the time, the shrinkage is so great it might not be perceived, though carefully fixed material will show the pulp in some cases, specimens of which I have now.

J. L. Williams emphasizes the vasomotor nerves of the pulp and pericementum, showing branches (nonmedullated) distributed to the blood vessels, he suggests that stimulation or injury of these nerves may paralyze the vasoconstrictor fibrils a short time before paralysis of the vasodilator fibrils occurs, thus explaining the engorgement of the vessels which strangulates the pulp in arsenical destruction of the latter. The origin of the vasomotor nerves, he states, is "in the upper jaw from the anterior palantine nerve, which, arising from the spheno-palantine ganglion, is connected with the sympathetic system through that branch of the Vidian nerve which arises from the carotid plexus; and in the inferior maxilla, their connection with the sympathetic system is through a nerve branch from the facial artery, which enters the submaxillar ganglion, through the chorda tympani and also the otic ganglion from a branch arising from the plexus of the middle meningeal artery."

Burchard believes that the nerve supply of the pulp is from the branches of the dental trunks proper, though admitting that nerves pass over the alveolar rim into the pericementum. In mature teeth, he is not certain as to the point of entry. But in a figure showing a cuspid tooth at 13 years, the nerves one-third of the way up the canal are seen to consist of several bundles of medullated fibers which follow the course of the main blood vessels, splitting into fibrillæ, beneath the layer of odontoblasts with which they have a doubtful relationship.

Black states that nerve bundles distributed to the apical pericementum, as well as to the pulp, have a common origin, namely, the inferior dental nerve in the lower jaw and that in the upper jaw, blood vessels and nerves together penetrate the antral wall "into channels of the basal portion of the alveolar bone."

In conclusion, let us note the great diversity of opinions prevailing among histologists. Are not these questions of vital importance before we can in any way reliably attempt or even venture to cure the pathologic conditions brought to our notice? How much more important is the histology, embryology, bacteriology and pathology of the dental tissues compared to the subject of physics by lectures and laboratory as is now being put in the fourth year of some of our dental colleges when it really belongs to the elementary chemic course. Let us encourage workers to give some time, optional or obligatory, during the senior or post-graduate year and give them better facilities by money grants through the Association whose committee on special research could determine whether the candidate was worthy of support or not and let the papers be published in The Journal if worthy of recognition.

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METHODS IN THE PREPARATION OF TEETH.[*]

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In preparing sections of teeth for the microscope it is necessary to proceed in different ways according to the structures desired to be demonstrated. For convenience the methods may be divided into: 1, ground or hard methods; 2, injection methods, and 3, structural methods; the structural being subdivided into general or those used to demonstrate cellular structures, and special or those demonstrating nervous tissues.

The hard or ground method should be used for studying tooth tissues in situ. The different processes, though differing somewhat in technique, all consist in grinding down sections of teeth thin enough to examine under the microscope and then polishing to a smooth surface and mounting in Canada balsam.

HARD METHODS.

Nealey's.—Fresh tissues only should be used and the method is a rapid one, the sections being ready to mount in thirty minutes. First one side of the tooth and then the other is ground on a dental lathe with a set of emery wheels. The advantages of this method are that the sections do not curl or become brittle.

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[*] Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul. Minn., June 4-7, 1901.

White's.—Sections of teeth are ground between two plates of ground glass with water and pumice powder and finished with ground glass alone. They are mounted in Canada balsam without heat; or, they may be soaked in ether twenty-four hours, transferred to thin collodion and stained with fuchsin two or three days, when they are hardened in methyl alcohol and ground down at leisure with ground glass and water only.

Dunkerley's.—Sections are cut off by means of a thin copper disc fitted to a dental lathe and revolving in a trough containing water and fine corundum powder. They are ground on copper discs and a Water-of-Ayr stone.

Cowardine's.—From green teeth preserved in turpentine rough sections are made, and then embedded in balsam and ground with corundum of four grades successively. They are then polished with the finest powder, stone lap, dry whiting powder and the hand; and then mounted in balsam, or dry.

Koch's.—Objects are soaked in copal solution, dried, hardened and cemented to a slide, on which they are ground down on a grindstone and on a hone to the requisite thinness and polished and mounted in balsam.

Weil's.—Tooth is extracted and immediately put into alcohol or aqueous solution of bichlorid of mercury to prevent shrinking. In all manipulations—cutting, sawing, grinding, sectioning—care should be taken that the tooth is at no moment without excess of moisture. Pulp is exposed at both ends and fixed in a saturated solution of bichlorid of mercury eight to twelve hours, washed in water two hours, then harden in dilute alcohol and gradually increase the strength 30 per cent. eight to twelve hours; 50 per cent. eight to twelve hours; 70 per cent. eight to twelve hours; 90 per cent. to which tincture of iodin 1.5 to 2 per cent. has been added. Stain in borax-carmin. Wash, dehydrate, clear, embed in balsam and rub down.

McQuillen attaches sections to a slide with balsam and grinds with a hone.

Latimer grinds on a corundum wheel, an Arkansas wheel, then polishes by rubbing on a smooth and dry plate glass.

Boedecker's.—A fresh tooth, or one soaked for a short time in chromic acid, is sliced thin under water and ground as thin as possible upon the corundum wheel of a lathe, always being kept under water. The sections are then placed in chromic acid one-half of 1 per cent, or picric acid saturated aqueous solution to harden tissues and dissolve the lime salts. They are then stained and mounted.

Hart.—After grinding sections thin, immerse them in 6 per cent. glacial acetic acid and then treat them in the usual way.

Modifications of these methods have been advised, as those of Smith, Röse, and others.

INJECTION METHODS.

To demonstrate the blood supply injection methods are necessary. The blood-vessels are filled with colored substances for the purpose of showing their relations to, and course through the tissues. Beale's Prussian blue is the solution usually used. This mass runs well and has not much tendency to exude from cut vessels. Its formula is as follows:

℞.	Price's glycerin	℥ii
	Tincture sesquichlorid of iron	gtt. x
	Potassium ferrocyanid	gr. iii
	Hydrochloric acid (strong)	gtt. iii
	Distilled water	℥i

Fearnley introduces Carter's carmin into the aorta of an animal, during which time it is kept warm. After the injection it is removed to cold water:

℞.	Carmin	m. cxx
	Glacial acetic acid	m. lxxxvi
	Gelatin solution (1.6)	℥ii
	Distilled water	℥iss

Whitman, in injecting, uses the femoral, or, if that is too small, the carotid or aorta. The animal is immersed in warm water and normal salt solution forced through the vessels to wash out the blood and dilate the vessels, and then the starch injection mass is forced through.

Inj. Mass:			
℞.	Dry starch	1	
	Chloral hyd. 2.5 aq. sol	1	
	Alcohol		25
	Color		25
Color:			
	Dry color (ultramarine)	1	
	Glycerin	1	
	Alcohol, 95 per cent	1	

Lepkowsky injects Berlin blue and then hardens the tissues *in situ* in formol 50 per cent. for two days. Then he decalcifies in nitric acid 10 per cent. (eight to fourteen days) and mounts in celloidin.

Huber used Ehrlich's methylene-blue *intra vitam* method. After forcing through a normal salt solution, methylene-blue in normal salt solution was injected through the carotid until the lips assumed a deep-blue color. Thirty minutes later the lower jaw was removed and cleansed with a dry cloth. The teeth were removed and the pulp placed on a slide in normal salt solution. In a few moments the characteristic blue color was found to have developed in the axis cylinders of the peripheral nerves. In fresh preparations the axis cylinders stained deep blue; the other tissues not at all or faintly. Unfortunately, preparations prepared thus always fade unless a fixative is used promptly. As a fixative a saturated aqueous solution of ammonium picrate (Dogiel). or a solution of ammonium molybdate (Bethe) may be used. The former preparations are mounted in a mixture of glycerole and the ammonium picrate solution; the latter dehydrated and mounted in balsam. Prepared in this way the tissues become so clear that a small pulp may be examined *in toto*. These methods Huber used in a rabbit; they can not be employed in pulps of human teeth.

With these two methods, the hard and the injection, I have had but little experience, having worked mainly with pulps and decalcification of teeth. To demonstrate tissue structures it is necessary to stain microtome sections with different dyes to bring out the different tissues. Either pulps themselves are used, or decalcification of the hard structures is necessary.

DECALCIFICATION METHODS.

Hopewell Smith decalcifies in 5 per cent. chromic acid, or, after hardening in Müller's fluid three to four weeks, removes to alcohol ten to twenty days, washes, seals the apical foramen with collodion and places in 12 c.c. hydrochloric acid 10 per cent. for fifteen hours, then adds 1.5 c.c. nitric acid and in forty hours 1.5 c.c. nitric acid again. In seventy-five to eighty hours they are washed in lithium carbonate for half an hour and cut by freezing method, celloidin, or paraffin. If the freezing method is used they should be dehydrated in 30, 70, 90 per cent. and absolute alcohols successively for one minute each to prevent shrinking.

Lepkowski's.—Pieces 0.5 m.m. thick are placed in pure formic acid 3 parts, and 1 per cent. aq. sol. gold chlorid 6 parts, for twenty-four hours. Then they are washed in distilled water and placed in gum arabic and glycerin for twenty-four hours, washed, and embedded in celloidin or paraffin.

Kleinenberg's formula:	
Picric acid	100
Sulphuric acid, strong	2
Filter and add dist. water	300
Ebner's formula:	
Hydrochloric acid	1
Sodium chlorid	10
Dist. water, ad	100
Haugh's formula:	
Phloroglucin	1
Nitric acid	*10*
Dist. water	50

After this solution, tissues stain well and all elements except blood are well preserved.

Schaeffer used a saturated aqueous solution of picric acid containing 2 per cent. hydrochloric acid and a crystal of picric acid added from time to time. When soft the tissues were placed in alcohol containing lithium carbonate. The alcohol should be changed till no color comes away. Embed in paraffin.

Squire's.—Hydrochloric acid 5 grams, and glycerin 95 grams. It softens slowly and does not interfere with structure.

Huber hardens with Müller's fluid for several weeks and then transfers to equal parts of nitric acid 10 per cent. and hydrochloric acid 1 per cent.

Boedecker advised chromic acid .5 to 1 per cent., used in large quantity and renewed frequently. To enforce the action of the fluid he added a small quantity of dilute hydrochloric acid (1 to 2 gtt.). This is a good method for softening the teeth when still in the jaw. It can be stained with carmin, logwood, or gold chlorid. If gold is used, wash well in distilled water to free from alcohol before placing in gold solution (0.5 per cent.), stain one-half to one hour, thoroughly wash in distilled water and expose to daylight several days.

Lactic acid acts well upon teeth (if diluted sufficiently) by dissolving the lime salts much faster than the chromic acid. Specimens decalcified in lactic acid are not distinct enough for study with high powers, hence after being softened with lactic they must be placed in chromic for several weeks.

Boll advises chromic acid one-thirty-second per cent. and gradually increased in strength until in two weeks it contains 2 per cent. or over. Decalcify five to six weeks.

Hopewell Smith.—For jaws of embryo mammals, strip jaws of all tissue except the gums, wash in normal salt solution and place in Müller's fluid for two weeks. Change often, and remove to alcohol and cut by freezing microtome, celloidin or paraffin. Its advantages are its simplicity, the odontoblasts are a large size, and the formation of the dentinal fibrils are at their highest stage of development. It affects but little the relative positions of dentine, odontoblasts, and pulp.

In using the tooth pulps alone great care must be exercised in obtaining them that the pulp may be obtained in its entirety. While some workers claim that all that is necessary is to crack open the tooth and lift the loose pulp out. my experience leads me to think differently. Many pulps that I have worked with have had small pieces of dentine attached along the sides. These were unnoticed at first until the knife struck them in microtoming.

In some sections the tomes could be seen extending out from the odontoblasts along the free border of the section; in others these were present only in places, and many were perfectly free from them. Some investigators believe that the nerve fibrils pass up between the odontoblasts and enter the dental canaliculi side by side with the dentinal fibers. Others differ; but whether so or not one thing is certain, that there is an intimate connection between the tomes and the dentine and that, being so delicate, great care is necessary in handling them. Boll claims that the odontoblasts, by their long processes, which extend into the dentinal canaliculi, are held firmly to the inner surface of the dentine, appearing to the naked eye as a thin mucus-like film. If this film is scraped off with a knife and brought under the microscope we see besides peripheral cells some parts of the inner pulp tissue. He therefore advises splitting a tooth and placing pulp and tooth in a very weak solution, chromic acid one thirty-second per cent. for one hour. Remove the loose fragments of tooth with a thin sharp knife; go between pulp and dentine close to the walls of the pulp cavity. In specimens obtained, thus large quantities of non-medullated nerve fibers are seen toward the periphery of the pulp which, when removed in the ordinary way, adhere to the pulp chamber.

Robertson holds that when a tooth is broken open the odontoblasts cling to the dentine and the pulp remains free, thus proving that the attachment to dentine is stronger.

For ordinary staining, logwood, logwood and eosin, and Van Giesen are good stains; but for special staining, and especially for the nervous tissues which we are so anxious to bring out, special stains are necessary. Of these the following are largely used: Golgi's stain for demonstrating nerves; Ehrlich's methylene-blue shows axis cylinders of peripheral nerves; Apathy's double stain for differentiating nervous and connective tissues; Mummery's iron and tannin for fine nerve fibers; Marchi's medullated nerve fibers, and Underwood's gold chlorid.

For the odontoblasts place in 6 per cent. solution of potassium anhydrochromate for twenty-four hours and tease in picro-carmin. To demonstrate the nerves in the processes of the odontoblasts, Beale crushes a fresh tooth and stains by his method. He macerates in strong syrup until soft and examines a few very thin sections, when the acid will be found to render all tissues transparent except the nerves which are granular.

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SYMPOSIUM ON DEGENERACY OF THE PULP—PAPERS OF DRS. TALBOT, LATHAM AND ANDERSON.

DR. R. R. ANDREWS, Cambridge, Mass.—Concerning the matter of preparing tissue, I have tried all these various complicated methods and with more or less success, but I finally came to the conclusion that if I got my tissue as nearly alive as possible, and used the simplest possible means of preparing it, I got in every case the better results. I have worked mostly on the heads of calves because it seemed to me they showed the tissue so well. I have taken the calf at birth and taken out the teeth and transferred them to a low percentage of chromic acid solution, 0.5 per cent., and if necessary I would use some stronger acids, hydrochloric, for instance, a very small percentage; I cannot tell just exactly the combination which I used. I placed that tissue in the solution and tested it from day to day. I have let it remain three or four weeks, but as soon as I found the area of that tooth sufficiently softened to use the microtome, I would let it remain until my microtome reached hard tissue, and in that way I found the most beautiful photographs could be made from the higher powers. Many pictures of low powers are entirely useless with the higher powers. The tissues seem to have run together and there is no definite picture and no differentiation of the pictures. They have to be very carefully prepared and it takes a long time. I have always been in favor of working as near life as possible, soon after the preparation was taken from the live body and in the simplest possible way.

DR. G. V. I. BROWN, Milwaukee, Wis.—I would have liked to see the symposium develop along the line of pathologic changes that occur in the pulp, so that under the microscope some definite etiological idea could be arrived at. I have had a great many interesting cases the past year, but in a large measure the benefit of them has been lost, because in our laboratories in Milwaukee we do not seem to have any distinguishing way of arriving definitely at the pathologic changes that take place in the pulp tissue. I have in mind one case in which there was a spasmodic affection of the muscles of the face accompanied by a recurrent pain which occurred at intervals of one and one-half to two minutes, so severe that the life of the patient was almost unendurable and the hyperesthesia at the posterior portion of the mouth and pharynx made it almost impossible to take nourishment. The difficulty was finally located in the tooth pulp and cured, and although that pulp was carefully preserved and an attempt made to treat it so it would show the characteristics of that condition we were unable to arrive at anything which we felt we could give out as scientifically correct.

DR. R. R. ANDREWS—If Dr. Talbot, in the large number of teeth he examined, had made a pathologic study of them, it might have been of great benefit in this direction, and he would have found that the pulp even at full maturity of the tooth is of great service. It is a mistake to suppose that the pulp has lost its function when it is fully formed. I know it is the belief that when teeth are fully formed the pulp might as well be out and they let it go, but those who have studied this subject will tell you that a healthy dental pulp has a function to perform through life.

DR. EUGENE S. TALBOT, Chicago—I scarcely think the Chairman and Dr. Brown have quite grasped the situation in regard to these papers. The general subject of this symposium is "Preliminary Work." The teeth were selected by myself and taken at all stages by men who make a specialty of the extraction of teeth. Age was not hence taken into consideration in a general way. The object of the paper was to give my own results only. Dr. Latham, Dr. Anderson and myself have undertaken a large amount of work, which is all preliminary. We have undertaken it in a systematic manner, taking up the general conditions of the teeth in a healthy state and from embryologic and nosologic points of view. There is one point in dental literature to which attention was paid, giving credit to whom credit is due. One object of these papers is to summarize the literature. One-half of it was given. The idea is to compile all literature upon the pulp before generalizing. That has been my method throughout life. All my writings show that I feel obliged to give credit to those that have done work before. After that, I take up the line of work and in all points where the work corresponds with that previously done, I give credit. If it differs, I show wherein difference occurs. That is the only way in which to make scientific research.

DR. VIDA A. LATHAM, Rogers Park, Ill.—I would like to say that I am in the center of a large city, but I have had extreme difficulty in getting hold of material. Our library boasts of a medical department, but it is almost devoid of dental literature except a few current journals. I believe the Northwestern Dental School has a library, but it is rather difficult to gain access, and then, when used for their students, the papers are either in Swedish or Hungarian and I am ignorant of those languages. I have tried to be pretty careful in regard to finding the original, and I have found papers that were under men's names that were a little familiar, that when carefully searched they were not their work at all. So I have tried to be particular on this point. It is rather difficult to follow the literature. I have used the excellent *Cosmos* index; also Dr. Taft's index, which is very good, and in that way I hope I have not missed any good articles in the journals, but I would be glad to hear of any other good papers that have been published.

There is another point in pulp methods that Dr. Anderson has brought out. I have tried to use simple methods. I believe the only successful methods that are being used are those which take in the jaw itself. It is almost useless to take out the tooth because you break the pulp and the continuity is broken. It is difficult to get a jaw or teeth from the human unless you are attached to a hospital. There is a prejudice in America against the postmortem; it is almost impossible to get teeth *in situ*. A point that strikes me very forcibly is why should we use the term "degenerate" in the embryo? Take the new works on embryology, take the American Dental works; take any standard works, and you find almost nothing on normal, let alone, degenerate pulp; the name does not occur. When we think of the importance of it, when the literature is silent on it, how can we treat sensitive dentine? Why should we take out the pulp? How can we treat the pulp when we do not know what it is? It is impossible. Out of ten pulps, nine are probably pathologic. Those who do dental histologic work use the ordinary methods for tissues. These methods must be studied especially with relation to dental tissues. Dr. Andrews is also very fond of glycerol, but after a few years the specimens may disappear! Specimens that I mounted ten years ago, I can find no trace of, and under those conditions, I feel a little doubtful about using glycerol. A man may write asking if you have certain slides to prove your statements, and therefore you must keep the specimens. I once wrote to Dr. Sudduth for specimens and he replied that he did not keep his slides as they were so easy to make! Personally, I do not agree with him. I have put in six months on one slide and then had difficulty to secure a good specimen. This, I beg to say, is mostly preliminary work, and now we expect to go further with various animals and human material from the embryo and find out where the pulp comes from, and when it originates. Some say it forms the odontoblasts, and some say it does not. If sensitive dentine exists there must probably be sensory nerves; if a formative organ they may be secretory cells like enamel or ameloblasts, and I believe nervous also, because we now are finding nerve endings in the epithelium in the tongue, cornea and all parts of the body due to the newer and special methods now being introduced, which previously have not been seen.

DR. G. V. I. BROWN—I am glad to hear what Dr. Latham has said and glad to hear the statement about the preparation of specimens. So far as I have tried the work it has been unsatisfactory. A large proportion of the methods are comparatively useless in application. It is one thing to get a nice, healthy specimen, and another thing to get a reasonable effect in demonstration, and then you should have a perfect specimen.

DR. R. R. ANDREWS—In regard to Morgenthau's demonstration, I think he uses the Galbia method. He found the dentinal tubules which appear to be fibers of nerve structures. I worked on that method for more than six months trying to get some results, with entirely negative results and I used the most careful methods. It shows how difficult it is to get at these things.

PERIODS OF STRESS AND THEIR DENTAL MARKS.*

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Despite embryologic teachings, that old notion that man is an entity who undergoes development alone, still controls pathology and physiology. The human being, however, is a compound animal in whom organs have their own nervous system and their own life under control of the cerebrospinal system. The child is not an undeveloped man, but man is an imperfectly developed child. The embryo has to contend with retrogressive as well as progressive factors, and the same is true of man after birth. Vertebrate embryos are of common type at their origin and assume successively many common forms before definitely differentiating. The higher vertebrates contain in essence the organs and possibilities of all lower vertebrates. The human organism is therefore a balance. While the balance is maintained the organs work in unity, though there is a constant struggle for existence between them. During embryonic existence this struggle is more intense and diversified than after maturity, because of the influence of three contending forces: remote atavism or throw-back to primitive types, immediate atavism or throw-back to less remote ancestors of the same type, and finally immediate heredity. Remote atavism tends to preserve structures which occur in the normal embryo only to disappear. The human heart passes through all vertebrate heart phases. This is likewise true of the teeth During the life of the embryo the tooth system wavers at one time between the polyphyodont and the diphyodont. At this period, should the diphyodont tendency of man be arrested, the polyphyodont takes its place and the human being sheds teeth as do reptiles. On the other hand, should immediate atavism gain the ascendancy over remote atavism shown in polyphyodontia, diphyodontia occurs. When the struggle for existence between the two is keenest a period of stress results, which affects the organism as a whole. This stress expresses itself most strongly in dental and maxillary irregularities, since the jaws and teeth are among the most variable structures in evolution. Under what is known as the law of economy of growth is governed the relation of the organs to each other, and the process whereby one structure is sacrificed for the development of another or for the development of the organism as a whole. Since certain parts in the evolution of organs disappear and in the evolution of organisms certain organs through suppressive economy and since the disappearing and developing tendency of necessity centers around the time when certain functions are to be lost by the disappearing and others gained by the developing, periods of stress occur around which the law of economy of growth centers the struggle for existence between parts of organs and between organs themselves. It is because of this that physiologic atrophies and hypertrophies and their reverse occur. Nearly all conditions of physiologic disturbance may result at these periods of stress under the influence of maternal environment or of hereditary factors. The fetus, therefore, must be prepared to pass through not only intra-uterine periods of stress, whose dental mark has already been indicated, but post-uterine periods as well.

The child has not attained its full development at the time of birth. It has within it certain potentialities, some of which are never fully realized. There is a constant struggle between the central nervous system and certain bodily functions for preservation of the individual and for preservation of the race, through which the central nervous system fails to reach the height indicated in the child. This struggle for existence after birth is keenest at certain periods. Each period is marked by dental phenomena. The first is the period of the first dentition. Here, coincident with teething, the child is gaining its impressions of the outside world, is learning to walk and talk, and is also developing its eliminative organs, especially the rectum. These varied functions constitute a strain on the system, effects of which are most often evinced through the teeth and jaws. The conditions charged to teething are an expression of constitutional strain finding its outlet through the point of least resistance. During this first dentition, the strain of development forces attention to the teeth, and thereby leads to neglect of other factors. The teeth at this period should be regarded as a meter of constitutional strain, and not a cause of it. Within the next period, between 2 and 6, occurs the first great check to continued development of the brain. Man has learned to use his brain despite this check, but had it not occurred he would have had a higher type of brain to use. Sometimes during this period the brain gains in size, albeit not in balance, at the expense of the general system. In no small degree the struggle for existence during this period of stress centers around the development and eruption of the 6th year molar. With the eruption of this molar, premature puberty, sexual precocity, epilepsy, insanity, gout, rheumatism, obesity, and other nutritive degeneracies, may occur. All have been charged to the eruption of the 6th year molar, whereas its irregular or difficult eruption is, like them, an expression of constitutional stress. Hygiene of the teeth at this period means also constitutional, mental and moral hygiene. Epilepsy, for example, is not a disease, but a symptom of weakness of certain vasomotor inhibitions. The first convulsion does not constitute epilepsy. Through a law of the nervous system, nerve action once roused tends to repeat itself. In this way are established normal and abnormal habits, of which last epilepsy is one. In its early stages a habit normal or abnormal is easily checked. The first convulsion, therefore, could be prevented were its premonitions known. A recurrence could also be prevented were the constitutional origin recognized. Observation of the general constitution at this time, because of irregular eruption of the 6th year molar, would enable the physician to nip epilepsy, and many other allied conditions, in the bud. Reflex notions, however, must be flung overboard. All irritations should be removed and any constitutional irregularity treated.

The obese child of 6 years, even though the obesity be not excessive, should be looked upon from a health standpoint with suspicion. There is liability to disease, and marked tendency to systemic weakness when under morbid influence. These children are particularly liable to rheumatism, gout, etc., and profuse hemorrhage from slight causes. Youthful obesity is sometimes associated with precocious maturity and resultant early senescence. More often it co-exists with extended infantilism, as in the case of Dickens' "fat boy."

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* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

E. S. Talbot, examining 267 corpulent school children and adolescents, found marked stigmata of degeneracy. Ninety-two per cent. had deformed ears to a marked degree. Sixty-six per cent. had arrested development, as compared with their age, while 12 per cent. presented excessive development. Thirty-four were too young to determine the form and size of the jaw. In 33.5 per cent. of the thirty-four the molars, incisors, cuspids and bicuspids were present. Ninety-six per cent. of these had small teeth. Eighty-seven per cent. (of the 233) had arrested development of the upper jaw; 22 per cent. arrest of lower jaw. Sixty-four per cent. had V-shaped or saddle-shaped arches, or their modification, and protruding teeth. Seventeen per cent. had hypertrophy of the alveolar process. Eighty-three per cent. had small teeth. Twenty-seven per cent. had extra tubercles upon the molars. Eighty-two per cent. had stenosis of the nasal cavity more or less marked. Thirty-six per cent. had deflection of the nasal septum to the left and 29 per cent. to the right. Twenty-one per cent. wore glasses for eye defect. In 58 per cent. there was enlargement of the thyroid gland, and in 7 per cent. arrest of development of it. In 296 cases of early lipomatosis (180 male and 116 females) coming under my own observation, there were 10 cryptorchids, 6 hypospadiacs and 3 cases of pseudo-hermaphroditism. Three females had infantile bifid uteri. Four had enlarged clitorides; in one of these the urethra perforated the clitoris, as in the female shrew. Of 40 girls who had reached 18, only 3 had menstruated normally. The others were amenorrheic or dysmenorrheic, or had neurotic storms during the period. There were 160 hebephreniacs among the number. Of these 120 had masturbated excessively. Ten had been nymphomaniac or satyriasic, the sexual appetite having become completely extinct at 18. Fifty of the non-hebephreniacs never showed any signs of sexual appetite. Three of the hebephreniacs were sexual inverts, while 80 practiced various perversities. Of the non-hebephreniacs 10 were cyclothymiacs, 30 had acute forms of insanity, 10 were epileptic and 15 hysteric. Thirteen had had chorea. Ninety-seven had difficulty in learning to speak and 30 always stuttered.

The appearance of the first permanent molar is therefore of great significance to stomatologist and sociologist alike. The mental and moral deficiencies usually present will interfere with proper care of the teeth particularly indicated in cases where such deficiencies occur. While the eye has received much attention as a sociologic guide the teeth and jaws have, as a rule, been much neglected, although of even more significance than the functional disorders of the eye.

The next important period of stress is practically that of the second dentition. Here there is a foreshadowing of the mental and nervous phenomena of the following period of stress. Sexual development now frequently receives its initiative. What is true of neuropathic children earlier is true at this time of ordinary children, under conditions of stress. There is irregularity of disturbed sleep, irritability, apprehension, strange ideas, great sensitiveness to external impressions, high temperature, delirium, convulsions from slight causes, disagreeably anxious dreams, romancing, intense feeling, periodic headache, muscular twitching, capricious appetite and marked intolerance of stimulants and narcotics. The struggle for existence between the developing alimentary and other systems between the 2d and 6th year had produced effects which are most felt during the 6th to 12th year. Provided this struggle is between normal limits, the average child does not incur permanent danger from it. If, however, from heredity, congenital defect or improper environment, development of the system does not proceed equably, then strain results, which produces, during this period, not only the conditions already described, but the following as well:

NEUROSES.

Convulsions.
Nervous laughs
Nervous coughs
Hiccoughs
Renal
Hepatic
Gastric
Vesical
Genital
Pulmonary
Adenopathic
Cardiac
Metabolic
Stuttering
"Tics"
Neuralgias
Neurasthenia
Ecstasy
Hysteria
Chorea
Epilepsy
Somnambulism

PSYCHIC TYPES.

Hallucinations
Anomalies of character
Aberrant sentiments
  Love
  Jealousy
  Anger
Obsessions or imperative concepts
  Pure
  Attended by impulsive acts
    Arson
    Suicide
    Homicide
    Alcoholism
    Theft
    Rape
    Non-criminal acts
Night terrors
Idiocy
Imbecility
Mania
Acute confusional insanity
Melancholia
Transitory frenzy
Stuporous insanity
Stupor
Katatonia
Paranoia
Cyclothymia

These are apt to occur at this time as a reaction to temporary disturbances of health. The temperature at which psychic disturbances begins in a child is a fair index of its brain stability. Neuropathic children, on a very slight rise in temperature or even without it, are subject to attacks of unreasonable elevation, during which they are quite beside themselves, rushing about wildly, shouting, fighting, and without clear consciousness of their surroundings. With this last picture stomatologists are very familiar in children brought to them for care of the teeth. During this period such disturbances have to be taken into account in cases where maxillary and dental treatment and regulation are indicated.

The period of puberty should include the period from the appearance of the menses or spermatozoa until the completion of the 25th year. The appearance of the wisdom tooth at this time marks human maturity, which was the reason that 25 was selected for the age of maturity by the code of Napoleon. During this period it is possible to correct dental and maxillary irregularities with benefit to the subject. Every one of the conditions enumerated are due to strain during the period between 6 and 12 may appear. In addition there occurs a type of mental disorder called hebephrenia, or insanity of puberty, which is practically incurable after its development. This is an insanity peculiarly charged to cigarette-smoking, masturbation, overstudy, religious excitement, and "love," all of which are the expressions of the defects and not their cause. These subjects in the earlier stage of their psychosis peculiarly require teeth regulation. In some cases, strain from the tooth irregularity may have sufficed to upset the unstable mental balance. The next great periods of stress in human life are those of the climacteric and of the senile period. The first is accompanied by the menopause in women and prostate change in men. The dental conditions marking these two periods of stress are generally involutional in character and require prothesis or treatment, not correction.

DISCUSSION.

Dr. Eugene S. Talbot, Chicago—I have been interested in this subject for years and I have spent a great many years in the study of these conditions. I have never heard a paper so clearly define those conditions as the one that has just been read. Someone has said that the discussion of dental subjects has been exhausted, but a knowledge of the conditions of the mouth so far as hereditary environment and embryology are concerned is still in its infancy. There are some points which deserve attention. Dentists often remark that if their patients were more careful with their teeth they would not decay, and then prescribe a course of treatment handed down for decades. The same old story is told of brushing the teeth, recommending the use of certain preparations, etc. As Dr. Kiernan said, evolution of the teeth is tending towards extinction. Decay of the teeth is a natural process and all the treatment on earth —as now applied—will not save them except in the individual. It is not only a personal calamity, but it has become a national one. Study of the teeth and jaws of the peoples of Europe shows teeth of men deteriorating, where the peoples are not of a nervous tendency, as they are in other countries. Through Greece, Turkey, Russia, Norway, Sweden, France and England, in the order mentioned, is evident degeneracy of the jaws and teeth. There are no peoples in the world whose teeth are decaying to-day like those of the English people. There are no irregularities of the teeth like those of the English. In England it has become a national calamity and the authorities have appointed committees and have furnished money to investigate the cause of decay of the teeth. All attention, the best methods of treatment will not save them.

Another question of the jaws and teeth that Dr. Kiernan has discussed, is the evolution of the second set of teeth. Dentists think they are able to treat pyorrhea alveolaris or gingivitis, and some claim to cure every case. With them it is simply a matter of local application, a peculiar sense of touch with instruments to remove all visible deposits. The condition is an atavistic one, and the disease is preventive to a certain extent. Still, should the individual live long enough, he would lose his teeth. This is a process of osteomalacia and nothing more than atavistic. As Dr. Kiernan has said, change of the teeth is going on continually. Where one tooth is shed in the lower vertebrates after it has done its duty, another takes its place. Where the temporary teeth are shed by absorption the second set takes its place. This absorption goes on with the second set and the teeth are lost in time. This occurs not in all cases, however, but in the majority, if the person lives long enough. Dr. Kiernan showed you a picture of the degeneracy and arrest of development. This is a picture where the child has grown to manhood, yet remained arrested in development. If the internal structures of the body were examined arrest of development would be evident. All have seen such cases, since they are very common. This particular condition illustrated, has arrest of development of the jaws and face. Dr. Kiernan remarks that structures that are temporary are changing from generation to generation.

For this reason dentists should be careful in regulating teeth, especially in children of from one to twelve years of age. These children are in the condition shown. In this neurotic condition the nervous system is very easily involved and also other organs of the body. Children are often invalided for years by having their teeth regulated and dentists should be very careful on that point. Another point about regulating teeth in such patients needs attention. Dentists can not tell just exactly how it comes about, but where the teeth are moved by springs, ligatures and all kinds of appliances, they can not be held perfectly firm. Later in life absorption of the alveolar process occurs at this very point, due to osteomalacia or alveolar absorption. Later in life gingivitis sets in from regulation of the teeth, the jaws are never restored to health and the absorption goes on until the teeth become loose and are lost.

I want to call your attention to the picture, a four and one-half months old embryo. All have seen children that have the appearance of age, with little hairs upon the face and ears, with wrinkles in the face, the hair frequently gray in spots, the skin drawn up and the fingers long and slender. In such patients, dentists should be very careful in the regulation of the teeth and in all operations. They always have irregularities and the greatest care is necessary because of the unbalanced nervous system.

Dr. Vida A. Latham, Rogers Park, Ill.—It is a good thing to have the tension made clear on pathologic principles. Many teachers have made the statement that it is absurd to suppose that the changes are made through the nerve functions. They can occur through tension, perhaps not permanently, but it is one of the factors underlying this development, or it may be through a case of retrogression. When we think of the enormous amount of force that goes on in the development of the teeth coming through four dental cycles, and of the congestion which involves the vasomotor and vasoconstrictor systems, we may come to the conclusion that it is due to the period of first stress. I have heard men advance the argument that pathologic stress is absurd; that it can not come from such a source, and was only a poor excuse for ignorance of some local condition.

Dr. G. V. I. Brown, Milwaukee—I can not say very much on this subject without encroaching on the paper that I expect to read later on. I shall be obliged to disagree with Dr. Talbot concerning the regulation of teeth, because I have to begin to regulate the teeth of these young patients before they are entirely destroyed, and from all of which I have demonstrated I can not agree with him. In regard to what he says of the disastrous results following the regulation of teeth in children and young persons, I think it was rather the fault of the method than the age of the patient, and I am convinced that where that continual absorption went on it was due to the effect of occlusion of the jaws on account of malposition, which caused an irritation of the tissue around the mouth.

Dr. James G. Kiernan, Chicago—I only wish to correct a little terminology which I think might be desirable in this Section. There is perhaps no word so misused and misleading as "degeneracy." The question is whether there is general degeneracy or whether it is a disappearance of certain parts for the benefit of the organism as a whole. It is true, a great many changes occur in this way for the benefit of the organism as a whole. The teeth are decreasing in number. There is very good reason to believe that man at one time possessed at least two extra incisors. There is also very good reason for believing that the wisdom tooth is tending to disappear. There is also good reason to believe that the human tooth is becoming microdont rather than macrodont, rather smaller than larger. This is along the general line of evolution with reference to the face and jaws. The human jaw itself with all its beauty, the human face, with all its beauty, is degenerate. For biting purposes and chewing purposes, it is not as valuable as the jowl of the lower races. It is an embryonic feature. It has lost space for the benefit of the brain. The brain has been absorbing more and more space at the expense of the bones of the face. Therefore, in dealing with this question of irregularities it would be wise to look at it in certain cases as a normal process. In certain cases it is wise to study the teeth not only from the point of regulation, but also from the standpoint of removal a little more than is done. No human hand can turn back the clock of time, retain a high type of man, and yet restore the jaw of a prehistoric ancestor who lived on food in which there was an enormous waste. The native or prehistoric races had beautiful teeth; but those teeth could not exist with the environment of the civilized races.

Civilized man does not waste his food so much; he does not need to do so much chewing and tearing. In the only animal that can be compared with man, the dog, similar changes are taking place, and these changes of domesticity are coincident with the changes occurring in civilized man. Another factor also influences these changes. There are many race types with different jaws and different teeth. No races are pure considered from this standpoint, but all races are intermixed. It is safe to say that every one of the English-speaking races has some primitive race element in them. Every one of the Teutonic races and every one of the Eur-African races have the same elements in them, and also the Eur-Asiatic. These races have different types of jaws, different sizes of teeth; from their mixture comes the so-called Aryan race. These people are subjected to a new environment. It is therefore a duty to study how far in one case removal of the teeth in a certain type might be a benefit in correcting irregularity, and how far in the other it might be injurious, and deal with the question from that standpoint. It can not be dealt with in a general way, but the individual conditions to which man is exposed must be studied. There is much nonsense talked about the degeneracy of the teeth. This is usually ascribed to luxury. The degeneracy is often an expression of the advance of the human race. When man gets fewer teeth, then there would not be so much irregularity, nor so much trouble in other directions.

INFECTIOUS DISEASES.*

ALICE M. STEEVES, D.D.S.
CHICAGO, ILL.

A knowledge of the possibility of transferring infectious diseases from one patient to another by means of instruments or otherwise, and of the character of the infection itself, is of the greatest practical value. While the necessity for proper precautions to avoid these accidents has long been recognized, the recent advances in the bacteriology of the mouth and throat cause the subject to assume new importance.

Of all diseases in which the infection is frequently carried from the mouth of one patient to that of another, perhaps the most important is syphilis. In this affection two different lesions are formed in or about the mouth, each characteristic of the disease, and appearing at different periods in its course. The primary sore is frequently to be found upon the lips or within the mouth. This is especially true in children. The mucous patches of the secondary stage are usually seen in the mouth, where their seat is on the inner surface of the lip, the tongue, the palate, or the fauces. In size they are from an eighth to half an inch in diameter, and while they extend superficially they are never deep. They are whitish in color, with rounded edges and raised rather than depressed. These two lesions are the sources of most of the infection, which causes new cases of the disease, the virus being carried by actual contact, surgical instruments, household utensils or other accidental means; and to unaccustomed observers they may be overlooked or neglected, or considered harmless because their true character is not recognized.

The frequency with which these conditions occur and the great danger attached to them should warn every oral surgeon to be ready to recognize them and to take proper precautions to protect himself and others.

Modern research into the bacteriology of the mouth and throat has suggested new possibilities in the matter of carrying infection from patient to patient.

The discovery that the germs of scarlet fever and diphtheria may be found in perfectly healthy mouths and throats, and the fact that these germs remain in the mouth and throat for long periods after the clinical signs of the disease have disappeared, suggests the probability that these diseases may be transferred from patient to patient by unclean instruments. Well proven instances of this kind are indeed rare; yet this mode of infection is worthy of attention.

The germs of diphtheria are sometimes found in tooth cavities or in a healthy throat, and although they may not cause the disease in that individual because of his natural resistance, when carried to the mucous membrane of a susceptible person they may produce the disease in a virulent form. The bacillus of diphtheria may be the cause of all grades of sore throat, from a simple acute catarrh to an intense membranous inflammation extending into the nose and mouth; so that the true nature of a sore throat may not be recognized and the bacilli spread from patient to patient on septic instruments as is so often done by infected spoons and forks.

Diphtheria bacilli usually remain in the throat two weeks after the membrane has disappeared, but have been found five or six weeks afterwards in some cases. The infectious nature of purulent discharges following scarlet fever, such as a rhinitis or pharyngitis, are now fully recognized, so that, if after one of these infectious diseases catarrhal inflammations are present, the necessary precautions can be taken to prevent new cases of the disease.

In the same manner, erysipelas, which begins so often at the juncture of the skin and mucous membrane, and pus cocci from suppurating processes in the mouth may be transferred from patient to patient; and it is easily conceivable that the bacillus of tuberculosis could be taken from the mouth of a tuberculous patient on dental instruments and be deposited in the mouth of another patient and then find its way into the lungs.

DISCUSSION.

DR. VIDA A. LATHAM, Rogers Park, Ill.—This is a subject that is scarcely touched upon by dentists, but in connection with the physician we can accomplish a great deal in this direction. Many cities have a quarantine law, and in that way we can control these diseases in large cities, but it is more difficult where a physician is allowed to use his discretion in placarding a house. There is a great latitude in that method. If a physician is not perfectly honest and upright, he can probably be persuaded by higher fees or some other way to favor the family. A man will tell him that he has got to go to business, and the result is the physician does not quarantine the father of the family, and he goes to the bank or to his business without hindrance.

I have had two horrible cases of infection in little folks through the non-disinfection of instruments, more especially forceps. In one case that was referred to a specialist, a syphilitic lesion was caused in the upper jaw through the use of unclean instruments. In another case a woman contracted primary syphilis and as I did not care to be in a malpractice suit, it was referred to a specialist. The cause was using infected forceps in extracting her teeth.

In dental schools how many students are trained to see cases of syphilis in the oral cavities? They do not see them because they are not pointed out. I have only seen them, because I have practiced medicine and dentistry. Few dental schools make any effort to classify or make a clinic for such diseases. Unquestionably, students ought to study and know these conditions. Most of us, if we should see a case, would not recognize it. Therefore, I hope the teaching of surgical cleanliness will be broader and deeper in all its branches.

DR. GEORGE T. CARPENTER, Chicago—The ordinary practitioner will not recognize the conditions, particularly syphilitic lesions, and it is a very difficult matter, even where he suspects a case, to get a history of the case. Syphilis is a disease that is covered up, and sometimes the only thing the practitioner can do is to pursue syphilitic treatment in a case he suspects and the case will respond if his surmise is correct. We can not be too particular in regard to the absolute importance of sterilizing instruments. Less than a year ago I had a relative in my office who was having a little work done. He spoke of a slight abrasion at the corner of the mouth. I cleansed it and gave it some trivial local treatment and the incident passed from my notice. At the same time, I held the chair of oral surgery in one of our schools. A short time after that a brother, who was a medical student at that time, and who has since graduated, asked me if I had noticed William's mouth. I told him I had not specially noticed it. He said he wished I would notice it, as he himself was a little alarmed. He had been taking one of the preparations of mercury, and he believed he had secondary syphilis. If a person teaching these things will let them pass from under notice, what will the ordinary practitioner do? Consequently, I think we should be alive to the existence of these conditions, but above all we should pay strict attention to the sterilization of our instruments.

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* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

Dr. A. E. Baldwin, Chicago—The statement is made that cleanliness is next to Godliness, but I believe that cleanliness is Godliness, especially in the dental chair. I think we sometimes exaggerate the importance of the health departments of our large cities in regard to the transmission of many of these diseases. I think it is a question as to whether some of these diseases that are called infectious or contagious are really what the name implies. Where we find those conditions present in healthy mouths, for instance, tubercle bacilli, we find them often present in many mouths of perfectly healthy people. In many school-children we find those bacterial conditions are present in a perfectly healthy mouth. I suppose the only conclusion arrived at is that we must have a proper condition of the system so that the resistance is not great enough to throw off the effect of the systemic poison.

In regard to the use of cleanliness, it seems hardly necessary to speak of it, but I recognize the condition Dr. Carpenter speaks of, the busy practitioner omits to investigate some cases that he would investigate if his mind were not centered upon something else and his time limited. It requires a good deal of courage to acknowledge our shortcomings, but I think if the truth were told by all of us, some things fully as bad or even worse might be said than what the Doctor has told us. But the only thing to do is to fix the fact in our memory, that we must be very careful in everything that tends to the welfare of our patients, and that we must attend to the absolute cleanliness of our instruments, our hands, and our persons.

Dr. James G. Kiernan, Chicago—There is a rather serious error in Dr. Baldwin's statement. In the first place, for infection, two things are necessary; a culture medium for developing the particular germ, as well as the germ. There is probably no healthy individual without pathogenic germs in his mouth. While he is immune under given conditions, those bacteria may be transmitted to another non-immune individual and the result continued indefinitely. The particular medium may be immune, but he continues the danger. That danger, however, has been met somewhat by the prevailing practice in dentistry of using antiseptic washes. There may be certain bacteria in individual mouths and those bacteria may not gain entrance into the system until after operation. This is the case with the streptococcus, the staphylococcus and other pathogenic bacteria. The existence of bacteria in a healthy mouth contains an element of danger greater than is generally recognized.

Dr. Vida A. Latham—I would like to emphasize a point brought out by Dr. Kiernan. I think we doctors and specialists should pay particular attention to the throats of children at school. How many children are allowed out under two weeks with an infectious or contagious disease? In England it is at least six weeks or until all the scabs and rashes have disappeared. Here, from climacteric conditions, measles, scarlatina, etc., would be rather light, but there the mortality is greater. In the case of scarlet fever it may be only a light attack, and the child may be back in school in two weeks! I know of a child who had a light attack of scarlet fever, whose mother allowed it to play with other children, putting kid gloves on the hands of the child. Of course, there is danger of infection. I have a friend, a lady, who went to a house where there was a case of scarlet fever unknowingly until the mother told her that her little girl had the disease and also diphtheria. There was no placard, though under a physician. My friend went home, changed her clothing, then hurried to a dentist's office, where she had an appointment. That is where contagion comes from. I do not think children should be allowed out of quarantine to mingle with people as early as they are in Chicago.

Dr. G. V. I. Brown, Milwaukee—I remember last year a gentleman gave us a very scholarly dissertation upon this subject, and it set me to thinking a good deal. Since then I have tried to do a little missionary work, and during the last year I have given, at various times, before school boards and school committees and any who were interested in the subject, an illustrated discussion on this topic, in which I tried to enforce the value of care in this direction by having slides thrown from the lantern upon the wall, illustrating these different germs that we have been speaking about, particularly the diphtheria bacillus, the pneumococcus, and so on. I do not think I can do better at this time than to emphasize again the necessity of doing something more than talking these things over among ourselves. We all know the danger of infection. We are benefited by having the idea that cleanliness is next to Godliness impressed upon our minds, but if we would resolve ourselves into a committee of the whole, and go out from here and spread the information until we make school boards and those who have charge of the instruction and care of young people recognize the importance of these things, we would be doing a great deal more than we are doing here now. I have tried to make it strong in speaking of diphtheria by calling attention to the fact that Park View had an epidemic of diphtheria, and at least 1 per cent. of the children had these germs in the mouth. In Milwaukee we have had members of the medical profession, during an epidemic, examine the mouths and throats of children every morning before school began, but it seems to me that is a good deal like locking the barn door after the horse is stolen, because by the time the lesion is manifest, or the disease recognized, the child has already exposed more children than it would be possible for us to compute. The same is true, in a large measure, of tuberculosis. If one in every seven dies of tuberculosis, as has been stated by Dr. Senn, and many agree with him on that point, and the disease is so prevalent that it defies all our laws of sanitation, it seems to me the practical thing to do is to begin right in the mouth. In by far the majority of those cases of affections of the lungs, the bacilli are in the mouths of such people continually, and whatever care may be taken of the sputum of such people after it leaves the mouth, a little care taken before it leaves the mouth would be much better. It is a simple matter for public schools to have a large vessel at the door with some cheap antiseptic, and make it obligatory upon pupils to rinse their mouths before entering the schoolroom. I am certain we would do more to check diphtheria and influenza by checking these things than we can in any other way. I think it is well worth continually repeating until we are tired of it, or until we finally make the right impression upon the minds of the people in charge of our public institutions. We are not politicians, but if we can arouse the laity without politics by continually reiterating these facts before the people, we shall feel that our labors have not been in vain.

Dr. A. E. Baldwin, Chicago—I think a great deal of harm comes from posting notices. I know they would agree with me in many large cities. Here is a case of a child that has scarlet fever. That child was isolated from the household, and no one allowed to see it except the trained nurse; no one else ever went near it. Would it be right to isolate that whole building by putting a placard on the front door? They would not be incautious; they could not be affected at all by being in another part of the house. Does that little card, eight by fourteen, offer any protection? Not at all. It does nothing of the kind. I agree with Dr. Latham that there should be a rigid enforcement of separation between those affected and those who are not affected, children as well as adults.

Speaking of what Dr. Brown has said, I do not think tuberculosis is dangerous to us as long as it is in Dr. Brown's mouth. It is not spread in that way. The only circulation it has is in the air or in food and drink, and the remedy he suggests would do no good in lung difficulties. If we could have any preparation to take into the mouth to destroy tubercle bacilli it would have no effect one-half hour later. I think there is such a thing as carrying this matter too far. Notwithstanding the isolation of these cases, we will find these Krebs-Loeffler bacilli in many mouths that are healthy, and we can not look into every mouth. That is impossible. When we admit that they may be found in the mouths of people who are perfectly healthy, we can readily see that isolation cuts no figure. I do not want anybody to misunderstand me; I do not want to throw open the door to every diphtheric case, but there are a great many things that we advocate that are really not as far-reaching as we think they are. They are not as effective as we think they are. I do not think that anyone who knows me can say that I have ever been an advocate of any chance or careless method in any way, shape or manner, but I do think we had better be a little cautious and know what we claim before we make any great claims for our belief. It is far from proven that many diseases that are called contagious or infectious are really so.

Dr. G. V. I. Brown—In the isolation hospital in Milwaukee, during an epidemic of scarlet fever, the patients were immediately placed upon a system of treatment which included the disinfection of the mouth with hydrogen dioxid and oxygen. The result was that out of one hundred cases there was not a single one affected by any of the various sequelæ that follow that disease. The suppurative process which very frequently is likely to follow that disease, and that almost invariably affects the middle ear, was entirely absent, and there is no question about the value and efficacy of that treatment, and it is now becoming an established factor in the treatment of other diseases. The same is largely true of typhoid fever and some modifications of that disease.

Dr. Alice Steeves, closing the discussion—This paper has been the outcome of my own observation and experience. I have reason to believe that there has been infection from improperly cleansed instruments in several cases of which I had the care, and I thought it would be well to bring this matter up. In speaking of sterilization and cleanliness, I feel that especially in the schools ordinary cleanliness is not properly demonstrated to the students. We must have ordinary cleanliness before we can have surgical cleanliness.

THE TREATMENT OF CUTANEOUS CANCER.*

M. L. HEIDINGSFELD, M.D.

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The treatment of cutaneous cancer has been one of the most serious and difficult problems with which the profession has had to deal. The remedies, which at one time have been highly extolled, at another, severely condemned, are exceedingly varied in nature and innumerable in number. Two remedies which are received with much favor to-day, zinc chlorid and white arsenic, have been extensively used, the one for scores of years, the other for centuries. The use of these two remedies, in the hands of certain specialists, was attended, at least in selected cases, by eminently successful results; in others there was absolute failure, if not death of the patient.

Caustics were much in vogue in the treatment of cancer, until the recent advances in surgery were made possible by the introduction of antisepsis and anesthesia. Since then the knife has been freely employed, and its use was gladly welcomed, with the hope that free and radical extirpation would assure a positive and permanent cure for a condition whose erstwhile therapy was exceedingly painful and of more or less doubtful value. It is needless to add that our fondest hopes have not been realized, and after a rich experience covering a goodly number of years, the most sanguine must admit that the results have not been gratifying.

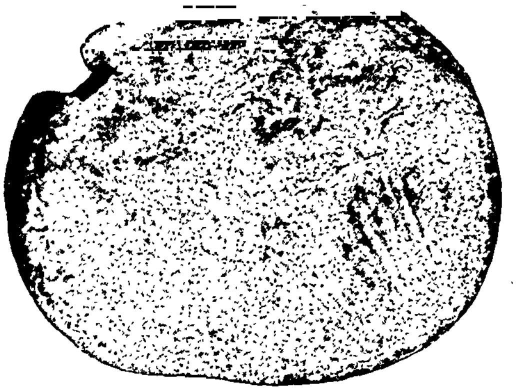

Fig. 1.—J. W. M. Photograph of piece of tissue removed from posterior border of scalp, measuring 3½x2½x½ inches, by means of pastes, applied by a cancer-quack. Sub-epidermal surface, which is traversed by some muscular bands, removed from the underlying muscular tissues.

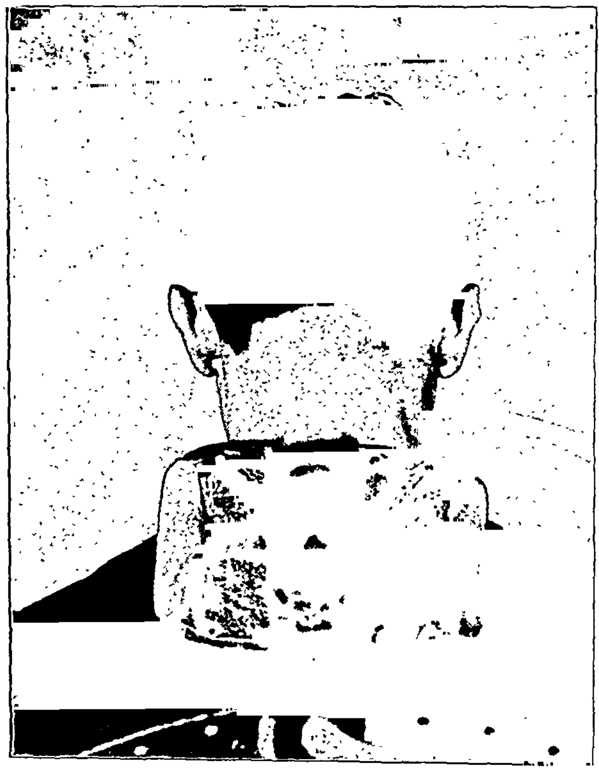

Fig. 2.—J. W. M. Cicatricial deformity resulting from the removal of tissue (see Fig. 1), by means of the cancer-quack's paste.

Coley[1] states that "however ardent advocates we may be of surgical intervention, to the exclusion of all other methods in the treatment of cancer, we are nevertheless confronted with the fact, that at least 75 per cent. of all cases are, or at some time become beyond the reach of the surgeon's knife." William Watson Cheyne,[2] surgeon of King's Hospital, London, speaking of cutaneous cancer, states, "that the very removal of the local disease, may, in some cases, rid the patient of the disease altogether. The favorable results are best seen in cases of epithelioma affecting the extremities, after amputation. R. Volkmann gives the cures, that is, the *patients well three years after operation*, as 51 per cent." Allowing for 15 to 20 per cent. recurrences after this period, we can readily see that the knife promises only about 30 per cent. of cures, and then, for the most part, at the cost of amputation of the affected extremity.

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* Read in the Section on Cutaneous Medicine and Surgery, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

[1] Wm. B. Coley: The Practitioner, 1899.

[2] William Watson Cheyne: Ibid.

Both the profession and the laity have gradually learned to realize those facts, and the nonchalance of the former and the skepticism of the latter have been instrumental in removing these individuals from our observation, to the care of the so-called cancer-quacks. As a direct result the number of these quacks have steadily increased, and in every large community there are not a few who have attained a considerable degree of local eminence, with the reputation of having effected a long line of, not failures and recurrences, but successful and permanent cures. A great deal of this reputation, I may dare say, is not undeserved; in place of dejecting the patient with the utter hopelessness of his disease, the danger and uncertainty of a severe operation, or the loss of an extremity, the quack encourages him *with hopeful assurances and promises*—pledges that are not always plighted.

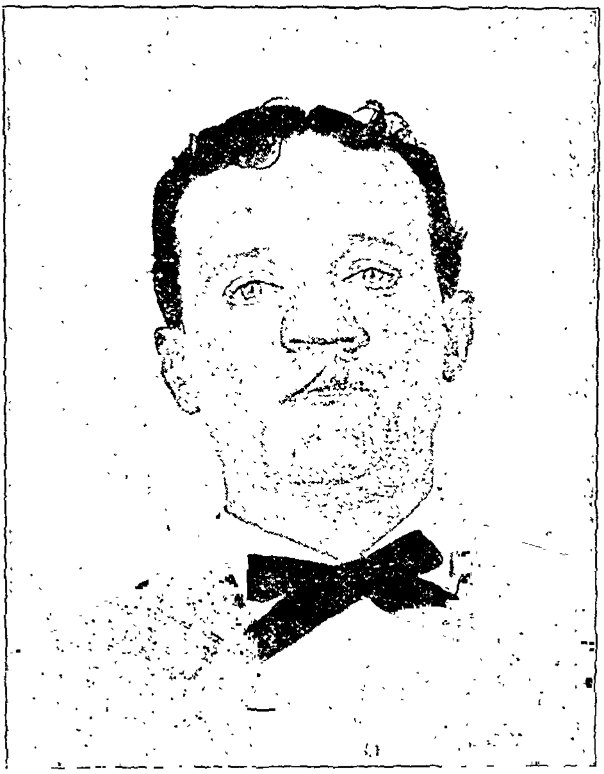

Fig. 3.—J. W. M. Cicatricial deformity of lip, resulting from the application of a cancer-quack's paste.

The agents these so-called cancer-quacks employ, are, for the most part, caustics, preparations of arsenic, zinc, potash, lime, and the common acids. An interesting specimen was recently removed by one of our local surgeons from the posterior border of the scalp. The alcoholic specimen measures three and a half by two and a half inches in its two diameters, and one-half inch in thickness, and has been removed with the subcutaneous tissue, fat, and even with some of the muscular fibers of the underlying tissues; allowing at least a third for shrinkage after hardening in alcohol, the fresh specimen must have measured almost five by four by three-quarter inches. It had been removed in a round, clean-cut manner, by the application of a brownish-red paste, and separated spontaneously, with considerable pain and reactionary inflammation, after an interval of four or five days. The disfigurement from the resulting cicatrix is considerable. Microscopic examination of the removed area reveals the tissues to be in an excellent state of preservation, the

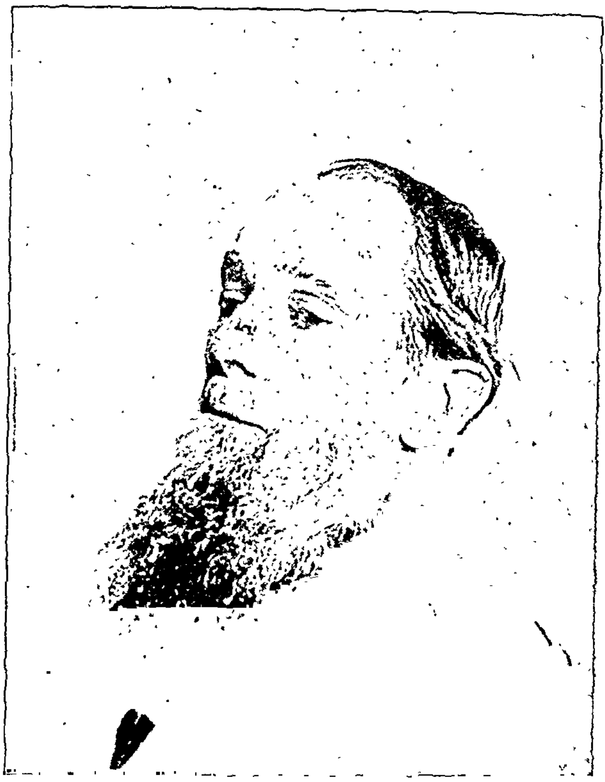

Fig. 4.—Mr. W. K., aged 70 years; epithelioma of 2½ years' duration. Feb. 20, 1901.

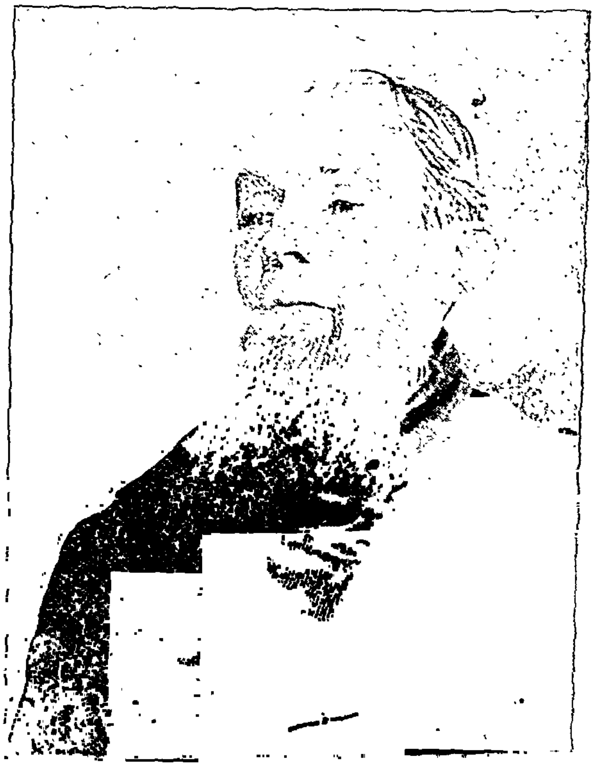

Fig. 5.—W. K., March 21, 1901; epitheliomatous ulcer of 2½ years' duration completely healed 29 days after institution of treatment.

pidermis, sweat and sebaceous glands, hair follicles, nd blood-vessels being histologically well preserved. he blood-vessels are extensively thrombosed and at the order where separation from the surrounding tissues as occurred there is very extensive inflammatory infilration. The specimen was removed from an individual 7 years of age, and the only indication for its removal as a papular, pigmental syphilid. A second area cancerous?) was removed from the upper lip, and the ncer-quack was engaged in removing a third from the side of his throat, when the patient, perforce from ain and distress, withdrew himself from his treatment. This cancer-quack enjoys a lucrative practice and an extensive local reputation, and no one can doubt that a remedy of this character can prove thoroughly efficacious in a case of genuine cancer.

Time does not suffice to permit me to take up all the remedies which are extensively used and extolled to a greater or less degree by various members of the profession. I wish to conclude with a brief narration of my results with a remedy which at present is receiving general and favorable recognition. I refer to arsenious acid, mixed with equal parts of pulverized gum-arabic, to which sufficient water is added to make a paste of the consistency of butter, and enough cocain crystals to alleviate the anticipated painful reaction, as recommended by Marsden, Robinson, Gottheil, and Stelwagon. I have found it expedient to add 10 per cent. glycerin before adding water, which prevents the paste from becoming too dry and therefore prolongs and intensifies its action; the reactionary pain is also diminished by the glycerin.

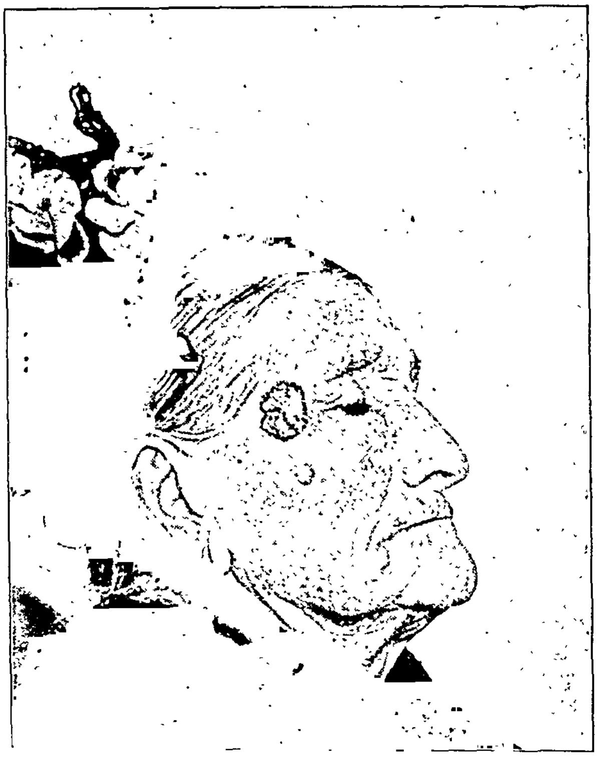

Fig. 6.—Mrs. A. K., aged 80 years, April 26, 1901. Epithelioma of 3 years' duration.

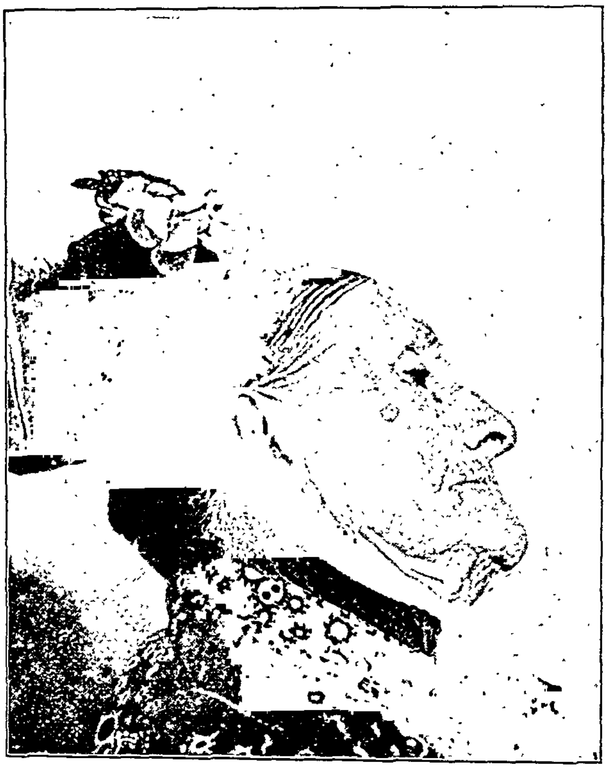

Fig. 7.—Mrs. A. K., aged 80 years, May 8, 1901. Epitheliomatous ulcer completely healed 12 days after institution of treatment.

R. Ac. arsenicosi	
Pulv. gum acaciæ, āā	5
Cocain. mur. cryst.	2
Glycerin	2
Aquæ q. s.	

M. Ft. paste. Sig.: Apply locally.

The paste is applied directly to the ulcerated surface, after being uniformly spread on a piece of muslin or linen, which has previously been carefully adapted to the affected area. It dries in the course of five to ten minutes, and remains firmly adherent until its removal 12, 24 or 36 hours later is indicated by the pain, intensity of the reaction or the degree of the treatment required. The after-treatment consists in the application of simple, soothing, antiphlogistic remedies, in the form of indifferent pastes, Wilson ointment, combined with cold compresses saturated with the solution of alum acetate. The resulting pain is usually slight, often scarcely sufficient to disturb sleep. There is some reactionary inflammation, in the form of redness and swelling, which is usually limited to the ulcer and its immediate neighborhood.

I have not found it essential to prepare the surface by the application of caustic potash, in stick or solution, green soap, etc., as recommended by numerous authors, in order to cut down the epidermis and to remove scales, crusts, and keratoses, which can interfere by their presence with the action of the arsenic. In one case I felt obliged to remove a crust by means of a compress of oil, applied for twenty-four hours. The application of caustic potash, even though momentarily applied, is exceedingly painful, and its irritating and destructive action being directed against healthy and diseased tissue alike, it is considerable of a gain to be able to dispense with its use.

In most instances one application of the arsenic has been all that was necesary; in several instances I felt obliged to repeat the application for fear the resulting reaction was not sufficiently intense. In one of these cases the ulcer was surrounded by an elevated wall of tissue, epitheliomatous in character, which did not share the reaction; the second application, made twelve days later, remained as ineffectual as the first, and though the wall remained, cicatrization was complete in twenty-nine days. During the following two or three weeks the wall also underwent spontaneous involution and has entirely disappeared.

From this I infer that arsenic possesses not only an elective action, exerting its chief influence on the weaker and less stable pathological tissue, sparing the more resistant surrounding normal tissue, but also exerts a specific influence over the cancerous tissue whereby it inhibits its growth and prevents its further spread and development without entailing its direct destruction.

My experience is too recent to permit me to judge of the permanency of the results; its immediate effects are certainly all that can be desired, and if nothing but this crowns our efforts it should hold a very high place as a palliative measure.

I regret that time does not permit me to compare its action with other remedies that have been recommended from time to time, and are in extensive use to-day, namely, formalin[3] (Ravogli), acid nitrate of mercury, pyrogallic acid, zinc chlorid, electrolysis, (Corlett), injections of alcohol, Vienna paste, mixed toxins of erysipelas and bacillus prodigiosus.

As far as my experience permits me to judge, I am strongly impressed that this method of treatment possesses decided advantages over the former methods. It is prompt in results, easily limited and controlled, spares the healthy tissues, exerts a marked specific influence, and produces relatively little distress and subjective disturbance. It promotes prompt cicatrization, and speedily converts a freely discharging, foul-smelling ulcer, filled with soft mushy granulations and flabby detritis, into a firm, clean-looking sore; inhibits the discharge and materially diminishes the inflammation of the surrounding tissues. The peculiar influence it exerts over the diseased tissue, without entailing its actual destruction, leads to the belief that the best results are to follow its application in mild rather than in severe forms; in other words, under-treatment rather than over-treatment is indicated. Time must prove whether or not the results are temporary or permanent in nature, but even in its present form it should prove to be an invaluable agent, if only palliative in nature.

DISCUSSION.

Dr. W. T. Corlett, Cleveland—Although I have not had much experience with the treatment Dr. Heidingsfeld advocates, I have had quite an extensive experience in the treatment of superficial epithelioma. During a period of about twenty years, after a wide range of remedial measures, I have of late years selected electrolysis almost exclusively in the treatment of epitheliomata. I believe it presents many advantages over other methods and even that advocated by Dr. Heidingsfeld. I can further say for electrolysis that it is extremely satisfactory, and while I do not advocate any exclusive method, believing the special requirements of the case should always be considered, yet, as I have observed the results attained by surgeons, the results are to me quite convincing that the methods resorted to by dermatologists are, as a rule, more lasting than when the knife is exclusively used. The method of employing electrolysis is extremely simple; anybody can do it with patience and a little skill. I often use an ordinary McIntosh battery of eighteen cells, which is sufficient to supply electricity for an ordinary operation, lasting twenty minutes to an hour. The patient must first be anesthetized, and when the lesion is small, he may be discharged as soon as he comes out of the anesthetic. Very little, if any, after-treatment is necessary. Of a large number of cases, some of which had existed many years, the diagnosis having been confirmed by microscopic examination, in only one instance, so far as I have been able to ascertain, has the growth returned. In this case the disease had developed beyond the point when any operation holds out much hope.

Dr. William Allen Pusey, Chicago—I have followed the method Dr. Heidingsfeld suggests, using Marsden's paste and frequently using the zinc lotion recommended by Unna, with most excellent results. I am surprised at the rather pessimistic prognosis Dr. Heidingsfeld gives, for it is a fact that cutaneous carcinomas are the most benign we have and we should expect a good result in all cases not complicated by metastasis. I had occasion to look through my records about a year ago and found that during the first three and a half years of practice that I treated eleven cases of epithelioma, either by curettage or by the application of paste without curettage. In all these cases, except one, there was a microscopic diagnosis. Each one of these cases I have been able to follow and there has been no recurrence. I do not think that is an unusual result with this method; I think Dr. Heidingsfeld exaggerates the importance of these lesions, if they are treated early.

I have lately treated an epithelioma by a new method, to which I would call attention in this connection; I have made use of x-rays. This case has been in existence twenty years. It is a superficial form of carcinoma involving only the skin. It has been treated by the best surgeons in Chicago and they had left a large epithelioma on the shoulder. This was put under treatment by exposure to x-rays, in January of this year. I exhibited the case last week and I do not believe anybody was able to detect any suspicious tissue remaining, the shoulder is apparently entirely healed, although, of course, further time is necessary to confirm the cure.

Dr. L. E. Schmidt, Chicago—I have had considerable experience in the x-ray treatment of cancer of the skin and up to the present time have not seen any favorable results, although I have practically followed the method used by Dr. Pusey, and originally laid out by Dr. Freund of Vienna. I do not see exactly why the dermatologist should lay the scalpel aside altogether. Without doubt there are a considerable number of cases that can be treated more successfully in a surgical way. Take those cases that border on the mucous membrane, both of the anal and oral, and other regions. In these positions the various pastes that are recommended can not be used with ease or safety.

Dr. Joseph Zeisler, Chicago—We have been using various medicinal agents in the destruction of cancer for a long time, but I have noticed during the last two years the enthusiasm with which these so-called quack methods have been taken up by dermatologists of good reputation. In my entire practice I have never made use of such agents, and knowing their constitution I believe I shall never use them because the method seems to me so thoroughly unsurgical, and after all, the treatment of epithelioma should be surgical, understanding by that term the thorough removal of everything that is diseased. It seems to me more rational to do this operation in the cleanest, most rapid manner possible. It seems more reasonable to do it in this way than by the slow course of cauterization, where we can not always limit the operation. I do not desire to be understood as wishing to relegate the treatment of epithelioma to the surgeon, for I believe the dermatologist will always find a field for this work. I am happy to say that some excellent surgeons in Chicago have referred cases of epithelioma to me. When I speak of the dermatologist removing a cancer in a surgical way, I mean by the use of the curette, scraping down to healthy tissue. It is surely possible to remove a superficial epithelioma in this manner. When it has ceased to be a superficial epithelioma I leave it to the surgeon. When it is complicated with deep-seated glandular troubles I do not touch it, because I do not claim to be a surgeon. After thorough curetting it is also proper to have a thorough cauterization, and I have always found the nitrate of silver in substance the best thing to use. There are others in this room who can testify to the excellent results I have had in such cases. In one case an epithelioma of the lip was removed in this way and healed in eight days in the most beautiful manner. As long as we have this clean method of removal with modern methods of local anesthesia, I will stick to it until I learn of something better.

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[3] Ravogli: Jour. A. M. A., 1899.

I want to express the hope, not based on experience but on observation, that in treatment by the x-ray we may perhaps find a valuable resource in this department of medicine. That the x-ray is an excellent means of destruction in lupus we have opportunity to observe in Chicago, where Dr. Pusey has used the method extensively. I believe it is as yet too early to form a definite opinion about it, but I am in hopes that the x-ray will prove to produce excellent results.

DR. BURNSIDE FOSTER, St. Paul—In the treatment of malignant dermatoses where, as is often the case, it is quite impossible without a microscopic examination to discriminate absolutely between cancer, lupus or rodent ulcer, I have had great satisfaction, after having removed everything possible by mechanical means, in the use of superheated air after the Holland method. I hope to show you to-morrow a very beautiful result in the treatment of a case of lupus after this method. So far as the treatment of skin cancers is concerned, it seems to me quite impossible to lay down definite rules which will apply to all cases and it seems rather a waste of words to attempt to do so. Undoubtedly, some cases are best treated by excision and some cases are best treated by erasion followed by the application of some caustic. Where it is quite evident that, by either of these methods, the growth can be entirely removed, we must be guided by the probable cosmetic result. I have had considerable experience in the destruction of skin cancer with caustics and I shall never be persuaded that the knife could have accomplished such beautiful cosmetic results as I have seen by these methods.

DR. D. W. MONTGOMERY, San Francisco—In the treatment of epithelioma you simply have to destroy it, with the curette, chromic acid, nitrate of silver, arsenic, or with the knife, but you must destroy it. The great advantage the physician has is in knowing a large number of methods of slow destruction. The arsenical method is undoubtedly a good one, but in looking over the literature I was impressed with the variation in strength of these arsenical preparations; it is wonderful how various these strengths are. Marsden himself never used a paste weaker than 50 per cent.; nor stronger than 75 per cent. To my mind 50 per cent. seems to be the least that one can use in order to get a good cautery. There are a number of cases where you can not use arsenic, and there are quite a number of other cauteries you can not use. For instance, a man was sent to me with an epithelioma on the back of his hand at the base of the finger that had developed on a scar. I could not use arsenical paste on that for fear of eating into the tendon sheath. I did not want to use a curette for the same reason; in fact, I did not want to use anything on it but the knife, so I sent him to a surgeon and it was so removed, and I think it was taken out thoroughly. I would not for a moment think of discarding the knife, and I would not think of discarding the actual cautery. French authors prefer the actual cautery. When a chemical is indicated I think the one they use most frequently in Paris is caustic potash. It is an admirable caustic. I remember the case of an old lady from whom I could not have removed a cancer of the nose with anything else. She was very nervous and would not stand the sight of any instrument, and she would not stand the injection of cocain, but in the course of a sitting I ploughed the growth with a caustic potash stick. I suppose it caused her a good deal of pain, but pain does not trouble these people. Having become accustomed to the application of arsenic I do not think I shall ever entirely give up its use.

DR. DAVID LIEBERTHAL, Chicago—Every method of removing cutaneous cancer without a cutting operation is valuable, and especially so if it does not cause much pain. We should not forget that there are patients who would not submit to an operation. That hot air, concerning the efficacy of which Dr. Foster spoke, might give good results; I can readily understand, considering the coagulative properties of heat, which will most readily affect diseased tissue. The first cases treated by x-rays were reported by Drs. W. Johnson and W. H. Merrill in the *Philadelphia Medical Journal*, December, 1899; and at the International Congress of Paris, 1900. Dr. S. Steenbeck reported two cases, one of which developed upon the base of a lupus vulgaris. These cases, which were all of limited size, resulted in cure. In a case of epithelioma which I reported May 25, 1901, in THE JOURNAL of the American Medical Association, and which was the size of the palm of the hand, the x-ray was applied for a period of three months by Dr. Haiselden. At first there was noticed a decrease in the secretion and some flattening of the tumor, but in the further course the tumor increased and surgical interference was resorted to. This case did not extend beyond the fascia. It is my opinion, considering all these cases, that the x-ray should be tried in all cases of epitheliomas of small size, but in those of larger size other methods will have to be employed.

DR. C. W. ALLEN, New York City—The treatment of cancer in this way was originally advised by reputable physicians and it was only because quacks took it up, it seems, that we dropped it. Now, after these many years, we have for some reason taken it up and I think it has gone far enough in this renaissance to prove to us that the method is excellent and not to be dropped again, especially the use of arsenic. Electrolysis I have also used, but rarely as the sole method of treatment. I often use it in connection with other treatment to destroy outlying suspicious changes from the normal vascular dilatations, little outgrowths at a distance. Occasionally I have used it as the only method, with great success. Just before starting from home I saw a man in whom three years ago I removed an epithelioma from beneath the eye, using nothing but the needle, and he had as soft a scar as one could wish for.

I failed to gather from Dr. Zeisler's remarks that he differs from the rest of us. I think most of us are inclined to curette before paste is applied, especially if there is no base that can be acted upon quickly by the arsenic. We all have our preference as to caustic, most of us using arsenic, some caustic potash and others nitrate of silver. Patients come to us as dermatologists because they refuse to be subjected to the knife and they will nurse their cancer and will die with it, if necessary, or let it go on to the destruction of an eye, or whatever organ it may be, rather than to have it operated upon with the knife. If they come to us and we offer them nothing but the knife there is nothing for them to do but to go to the quack. I think we should bear that in mind and offer something they will accept. You can curette without letting them know you are doing a surgical operation. I never say to a patient: "I am going to curette you and it will cause bleeding." I simply curette them and then apply caustic, or whatever I am going to use. I do not confine myself to any one method; I wish to speak of a combination method I have carried out. That is, after applying arsenical paste, which I mix with orthoform instead of acacia, and put in crystals of cocain, I put on arsenic solution, namely, arsenic, alcohol and water. I make daily applications of this and if I have missed any cancerous tissue the arsenic continues to attack it. The wound heals quickly and there are no cicatrices.

Just before leaving New York I saw a man who had had epithelioma of the penis. Dr. Leusgarten had examined the tissue and pronounced it epithelioma, and it seemed to me clinically unmistakable. I had applied the Bogard paste, which contains besides arsenic, zinc chlorid. That was eleven years ago and the man has remained perfectly well since. I do not advocate the use of arsenic in epithelioma of the penis, unless you get the case early. I have recently used this method in six or eight cases of epithelioma of the lip. Three were rather remarkable as to age, being 23, 26 and 28 years old. I have seen these men subsequently and they appeared to be cured, with a soft cicatrix. If we can do this with superficial epithelioma of the lip we can do it in epithelioma of the penis; the tissues of the penis resist invasion and it is a long time before the glands are enlarged.

In regard to epithelioma on the back of the hand, I think caustic is applicable there and I have used it in epithelioma of the palm, with a perfect result. One case was a recurrence; it was the mother superior of a convent, and the cancer returning I used caustic paste. The palm healed beautifully and I do not think it has returned. Arsenic is not apt to go into the tendons; it does not have a tendency to attack healthy issue. With zinc chlorid there is danger of the healthy as well as the diseased tissue being attacked. I think if we combine several treatments, using, if necessary, two or three in some cases, we will do better than the surgeon can do. That is my impression after using these methods twenty years.

Dr. A. W. Brayton, Indianapolis—Where so many speak we learn many things, and some that are not true. Nothing is so amusing as the talk about the benign tendency of arsenic by which it avoids normal tissues and selects the epithelial growths. That does not appeal to me; I do not think it has pathological or clinical support. I will say, however, that in the case of xeroderma pigmentosum I have had under observation for eight years, and that of her sister who has been under my observation since birth with the same disease, the inhibitory tendency of arsenic has been very satisfactory. After the tumors are raked out with a sharp finger-nail or spoon the application of a mild solution, even Fowler's solution, seems to inhibit their further growth.

The statement made this afternoon that impressed me most is that the old people who have cancerous growths to be removed bear the pain well, but they are victims of terror; they dread the knife and they dread the actual cautery. I do not think we err in removing cancer of the lower lip by grasping the lip between the thumb and finger, cocainizing it, scraping it with a sharp spoon, and then using the actual cautery or acid nitrate of mercury. I frequently use the Paquelin cautery in such cases.

I agree with Dr. Zeisler that we should work in a cleanly way, but I think the application of such caustics as we can control in our office, the removal of the epithelioma with a spoon, followed by the application of carbolic acid to deaden the nerve, then the acid nitrate of mercury, is a cleanly and efficient treatment. I give them half an ounce or so of acetanilid to apply to the wound from time to time and find it sufficient. Orthoform combined with arsenic may have a beneficial action, but I doubt its anesthetic action under such conditions.

Dr. M. L. Heidingsfeld, in closing the discussion—In regard to the prognosis being rather pessimistic, it is not my own; because my experience has been entirely too limited to permit me to express myself on a subject of that character. The opinions I have given from the literature are those of Coley and Cohen, and one or two other men. I have investigated very carefully, and nearly all the men I had occasion to look up have given a guarded prognosis in epithelioma or cutaneous cancer.

In spite of the statement of Dr. Brayton and others this afternoon, I am firmly of the opinion that arsenic does possess an elective, specific action in cancer. I have had several cases, all over 65 years of age and some as old as 84, all typical looking epitheliomas, some having the characteristic wall, slightly turned out, infiltrated and hard. Anyone who has done extensive pathologic work knows that the border in particular shows the characteristic pathologic condition. I was fearful of my results, that these ulcers would not heal; the walls have disappeared. I can only account for that by supposing that the arsenical paste has an elective action, because it does not destroy the tissue but inhibits its growth. This feature makes it a more desirable drug than anything else we have. All other processes that destroy the tissue act on the normal tissue as well as the pathologic tissue. In these cases the treatment is very satisfactory, the ulcer needs to be undertreated rather than over-treated.

As to whether the knife is more applicable than a method of this kind, that will have to be demonstrated by results. It does not matter very much whether it is the knife or the application of a drug, as long as we get results. If we have an agent which clears up these ulcers in a comparatively short time, and I have had them clear up completely in four to six weeks, that is certainly as well as any result we could obtain by surgical intervention.

As to whether arsenic can be applied on the back of the hand, I take it that it can be applied anywhere, with the same result. If the treatment is not carried out extensively there is no reason why it could not be applied to these areas as well as to others.

RELATION OF SYPHILIS TO BLASTOMYCETIC DERMATITIS.*

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Since the discovery of actinomycosis hominis by Israel, in 1878, it has been shown with the aid of microscopic preparations preserved in the laboratories of Europe, that cases of this disease were previously observed and reported as cases of sarcomata; cases of mycetoma have been proven to be caused by actinomycosis; the disease has been found in the brain; it has been observed under the clinical diagnosis, appendicitis; Neisser has reported a case which he at first diagnosed as a papulo-pustular syphilid, but which on further examination proved to be actinomycosis cutis, and, lastly, branching forms of the bacillus tuberculosis have been found in the lungs which Hektoen[1] tells us can not be distinguished from actinomycosis pulmonalis.

Ever since observing the case which my colleague, Dr. Herzog, and I reported last year as a case of blastomycetic dermatitis engrafted on syphilitic ulcers,[2] I have entertained the opinion that should it become established that blastomycetic dermatitis is a distinct disease, it was destined to have a somewhat similar history.

The first cases were discovered hidden away under the diagnosis tuberculosis verrucosa cutis. My case showed that a search should be made among the fungous syphilids, and it suggested other possibilities of diagnosis. The object of our present communication is to explain our views in greater detail, and to answer the many objections which have been raised to my opinion that there was a syphilitic basis to this case.

It will be recalled that the patient stated that for sixteen years ulcers, which he described as simple ulcers, were continually appearing and disappearing on the anterior surface of the leg; these ulcers left scars, some of which were quite deep, others superficial, having a semi-circular and stellate arrangement (symptom of Fournier), and that at the end of sixteen years those of these ulcers which were in a state of activity suddenly took on a changed appearance; they became covered with little warts, and, starting from these lesions, this wart-like eruption spread upward over the thigh, so that at the end of four years the entire thigh was one enormous plaque, covered with wart-like papillæ, the upper border of which was limited by a deep, firm infiltration, and seven months before the patient came under our observation, frambesiform lesions, which produced a very offensive discharge, developed on the foot. The patient never entirely recovered.

In treating of the vegetating or papillomatous and frambesiform syphilids, Kaposi[3] says: "It is a fact that vegetating formations frequently develop on specific nodules. They are not in themselves specific, inasmuch as they correspond, histologically, to those which develop on a simple inflammatory base, and, like these, originate from an exuberation of granulations or hypertrophy of papillæ, the same as in condylomata lata, the base alone being syphilitic. They can only be recognized as syphilitic by the characteristic infiltration or ulceration of the border."

If this statement is correct, the most rational explanation of these vegetations which sprout on a syphilitic base is that they are due to a secondary infection. The micro-organisms which are present in these growths have not been sufficiently studied, but the striking resemblance of some of the cases to blastomycetic dermatitis and their clinical history certainly suggest the possibility of this disease being discovered among these fungating syphilids.

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* Read in the Section on Cutaneous Medicine and Surgery, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

Like blastomycetic dermatitis, these syphilids are rare; they are papillomatous fungating plaques; lasting for years; involving enormous areas of cutaneous surface; sometimes steadily progressing during their entire course, and sometimes remaining in a quiescent stage for a long time, to suddenly take on great activity of development. They are exceedingly rebellious to treatment; at times finally disappearing under the administration of potassium iodid, only to reappear at some future time, and at other times only partly disappearing under treatment.

Were they due to ordinary pyococci they would be common, and we would not expect them to last so long and to steadily extend in spite of antiseptic treatment.

When potassium iodid is administered in cases of blastomycetic dermatitis, a peculiar reaction may sometimes be observed in the plaques; an inflammatory exudate is thrown out around and upon the lesions which, when the lesions are superficial and small, resembles very closely the reaction which occurs in lupus vulgaris after an injection of Koch's lymph. Where the lesions are deeper and their base is markedly infiltrated, the infiltration increases and the plaque increases in size, and sometimes ulceration of the plaque occurs. This reaction is usually accompanied by iodism. These changes have been observed in syphilis.

The objection has been raised to my assigning a syphilitic base to my case that the histo-pathology was distinctly the histo-pathology of blastomycetic dermatitis and not the histo-pathology of syphilis.

We have never said that the histo-pathology of this case was the histo-pathology of syphilis. What we have said, and what we now wish to emphasize, is that this was a case of syphilis cutanea vegetans of Kaposi. We took it for granted, and we had a right to, that every dermatologist would know that there was something special regarding the histo-pathology of syphilis cutanea vegetans of Kaposi.

Thirty years ago Kaposi[4] said that there was something special regarding the histology of these vegetating syphilids, inasmuch as they resemble common warts on microscopical examination. To-day Unna[5] says: "Under certain conditions the epithelium growth which develops on tuberous syphilids may, without atrophy of the epithelium, undergo a peculiar change, which causes it to resemble certain cancers, especially the rodent ulcer." In some cases, then, these eruptions resemble the rodent ulcer; in other cases, the common wart.

Blastomycetic dermatitis, when viewed with one-fourth power lens, so closely resembles the rodent ulcer that if a section be given to a competent pathologist, but one who is not on his guard for blastomycetic dermatitis, he will, as I can assert from personal experience, almost invariably report that it is a section from a rodent ulcer. In my case a few sections showed the wart structure, as described by Kaposi.

The findings with the oil-emersion are to be left out of consideration in this discussion, because the syphilids have not been sufficiently studied with the oil-emersion.

In criticism of our diagnosis, it has been pointed out that there was no history of syphilis in the case. We do not feel called upon on this occasion to enter into an extensive consideration of that cardinal principle of diagnosis, which has no place in scientific discussion outside of under-graduate instruction; namely, that a negative history of syphilis counts for nothing in the diagnosis of tertiary lesions; as a matter of daily clinical experience, cases may be seen in any dermatological clinic which may be diagnosed as syphilitic almost to a certainty without there being any history of previous syphilitic disease.

Of far greater importance, to my mind, is the objection that in each and every case of blastomycetic dermatitis which has been reported to date there is a negative history of syphilis. A negative history of syphilis counts for nothing in the diagnosis of an individual case, but if it can be shown that there is an entire class of cases in which the history is negative, it is a matter of the utmost importance. A review of the cases reported since the original article of Riehl and Paltauf, in 1886, to date, in which the differential diagnosis rests between cutaneous tuberculosis other than lupus and syphilis, and which were diagnosed syphilis, shows that there are but few in which there was a clear history of syphilis, and, furthermore, we will point out the fact that there are not many of these cases in which there were present lesions or lesion relics, such as might be produced by syphilis, but are not known to be produced by blastomycetic dermatitis or tuberculosis verrucosa cutis, such as perforation of the palate, *le nez a lorgnette,* periosteal nodes, etc.

These facts are capable of several interpretations. The next point for discussion is whether the clinical picture presented by this case was the clinical picture of tuberculosis verrucosa cutis or syphilis cutanea vegetans. This involves a discussion of the differential diagnosis of these diseases. That they are to be differentiated may be easily established. Riehl and Paltauf[6] say that not every plaque, the surface of which is covered by wart-like papillæ, is to be diagnosed their dermatosis, but only those cases in which all the symptoms taken together present the clinical picture which they describe. Brugger[7] says that syphilis sometimes so closely resembles tuberculosis verrucosa cutis that a differential diagnosis can only be made by the administration of potassium iodid.

Nearly all German writers agree that one of the chief points in the differential diagnosis of these diseases is that the outer zone in tuberculosis verrucosa cutis is a lilac-ring, as Besnier calls it, which almost entirely disappears on pressure, while in syphilis the outer zone is a distinct, firm infiltration, such as was present on the upper border of our case. Where there are a number of lesions present they do not all present the indurated border, and clinical experience has taught me that the induration may be entirely absent, and still the case be syphilitic, a point not mentioned by German writers, although we find in German literature reports of cases in which induration was not present, of which the following, reported by Ostermayer,[8] of Buda Pest, is an example: "The patient, a woman, aged 31 years, presents a lesion on the chin and cheek which is the size of the palm of the hand, and has been present a few months. On examination, the lesion is seen to be a plaque of a pale-red color, with a warty, papillomatous, uneven surface. The plaque rises abruptly from the surrounding healthy skin, just as the surface of a lawn rises above a surrounding walk. It is of oblong form, and ulcerated only in two pea-sized places. The papillæ are 8 to 10 mm. high, and 2 to 3 mm. wide. The surrounding skin is normal, and the plaque is as if set into normal skin. When first seen the case was diagnosed 'lupus papillaris,' but when no lupus nodules were found on the periphery of the lesion, the patient was stripped, and ulcerating gummata and periosteal nodes of the tibia were found, which were sufficient for the diagnosis, even in spite of a negative history." This is one of the few cases of this kind in which lesions were present which, so far as is now known, are not produced by blastomycetic dermatitis, but are produced by syphilis, and were this patient to present herself in any dermatological clinic of this country to-day, the lesions would be immediately examined for the presence of blastomyces.

The next point is the size of the plaque. Most authorities agree with Jackson,[9] that a fully developed patch is the size of a silver dollar.

Besnier and Doyen[10] speak of very large plaques, which they state are always fissured; their writings convey no idea as to how large these plaques may become, so that the only means at our command of forming an idea of the size which the plaques may attain is a review of the cases which have been reported, and nowhere can we find a case co-extensive in size with that of the entire thigh.

All authorities agree that tuberculosis verrucosa cutis is a disease which develops very slowly. Joseph[11] says that it takes fifteen to twenty years to form a full-sized plaque; others say from three to fifteen years. In one of Fabry's[12] cases, the disease involved one-third of the back of the hand in two years' time, which is rapid development. We can find no case where a plaque the size of the entire thigh formed in four years, as was observed in our case.

The following case, entitled "A Papillomatous and Ulcerating Lesion of the Forearm of a Doubtful Nature," reported by Brocq,[13] illustrates the importance this authority attaches to rapidity of development as a point in the diagnosis of verrucous tuberculosis:

"The patient is 59 years old, apparently healthy. For the past eight months he has had a lesion of the left forearm, regarding the nature of which I would be pleased to have the advice of my colleagues. At the present time it consists of a plaque, slightly oval in form, the long axis of which is from 5 to 6 centimeters in length, situated near the median line, and slightly internal to the anterior surface of the forearm. It presents an outer zone of redness, which is slightly violaceous, disappearing partly on pressure. The tissues of this zone are a little infiltrated, and the infiltration increases towards the center, and decreases towards the periphery, without any sudden demarkation from the healthy skin, but the limits of the lesion are sufficiently marked by the color. The skin in this zone is smooth and devoid of apparent superficial lesion. Inside of this zone there is a median portion much more irregular where the integument is mammillated, cut with deep fissures, as if torn open, and pseudo-papillomatous. One might say that the skin has been excavated by numerous small ulcerations, the borders of which are granulating. The tissues in this part of the plaque are soft, but deeply infiltrated. On pressure a purulent serum exudes from divers openings, but in small quantities. The physiognomy of the entire patch is not that of a gumma, either tubercular or syphilitic, but, on the contrary, more that of tuberculosis verrucosa cutis of Riehl and Paltauf. *It is not painful* either spontaneously or on pressure. It developed rapidly in two months; it then became papillomatous, markedly indurated, and formed a decided projection. It appears that the patient has had several lesions resembling furuncles, which he scratched, and this lesion is a transformation of one of these furuncles. The only two diagnoses which appear probable to us are, 1, a variety of tuberculosis approaching, as we shall see, verrucous tuberculosis of Riehl and Paltauf, but the development has been *so very rapid,* and, 2, an inoculation of some parasite, which has produced a lesion resembling the Briska button. This last diagnosis is impossible, because the patient has always lived in France, and also because it has not exactly the appearance of the Briska button."

In closing the discussion, Brocq remarked that it resembled most of all tuberculosis verrucosa cutis. Were this case to present itself in any dermatological clinic of this country to-day, there can be no question but that the first diagnosis which would be considered would be blastomycetic dermatitis.

In addition to the importance which Brocq attaches to the rapidity of development, it should be noted that the case impresses the observer as being a secondary infection. The induration present in this case is also to be borne in mind.

The frambesiform lesions of the foot developed in seven months' time. There was no disease of the subjacent bone, as is usual in large plaques of tubercular vegetations, and the secretion from these plaques was of the very offensive nature mentioned by Kaposi as one of the symptoms of syphilis cutanea vegetans.

From these findings it will be seen that a syphilitic base was assigned in this case, on the following evidence:

1. That for sixteen years ulcers were appearing and disappearing on the anterior surface of the leg, leaving scars which resembled syphilitic scars; at the end of sixteen years the ulcers then present took on a changed appearance; they became covered with little warts, which spread rapidly.
2. The infiltrated border.
3. The size of the patch and rapidity of development.
4. The histo-pathology.
5. The character of the frambesiform lesions.
6. The result of treatment.

These symptoms are certainly sufficient to exclude tuberculosis verrucosa cutis, and with that disease excluded, one of two propositions is correct: either ours is a case *sui generis,* the like of which has never before been observed in the history of medicine, or else such cases have been previously observed, but have been reported under some other head than that of tuberculosis verrucosa cutis. Inasmuch as the opposition has not claimed that such cases have been heretofore reported under any other head, than those mentioned, we are justified in concluding that such cases are either *sui generis,* or syphilis cutanea vegetans, and that point we have sufficiently argued.

The question will immediately occur to your mind: Do the above-named symptoms absolutely establish a syphilitic base to the case in question, in view of our present knowledge of blastomycetic dermatitis?

It must be acknowledged that if blastomycetic dermatitis be recognized as a distinct disease, these symptoms are totally insufficient, but inasmuch as they are the symptoms on which our diagnosis has always depended, they must stand until blastomycetic dermatitis is fully recognized as a disease. Zeisler[14] says: "*The* question is whether we have a right to overthrow well-defined, sharp and precise clinical pictures which we have always recognized, on account of the occasional occurrence of these organisms." All German authorities who have expressed an opinion on the question of blastomycetic dermatitis have taken a most conservative stand.

Jadassohn[15] simply says: "Potassium iodid, which usually acts quickly in late syphilis, can influence actinomycosis, and, as has been recently stated in one case, it can exert an influence on blastomycosis, but it has no influence on tuberculosis."

In his recent text-book, Jarisch[16] says: "The proof that blastomyces are the cause of skin diseases must be left to further investigation, as well as their importance in the etiology of tumors."

Kromayer[17] is most emphatic in his statement. He says: "Buschka's case is especially characterized by the fact that cultures inoculated into the skin of the patient himself produced cutaneous ulcers like the original. In this respect this case differs from any case reported to date, not excepting the case reported by a triumvirate (Hyde, Hektoen and Bevan), which resembled tuberculosis verrucosa cutis. In this case yeast fungi were found, which were assigned as the cause of the disease. They did not produce fermentation of sugar, and they only produced slight symptoms of disease in animals. In this case, as well as in all other cases, it is advisable to place an emphatic query after blastomyces as a cause of disease. To date the Buschka case is the only case of blastomyces in the human race."

Pelagatti[18] has obtained a *pure culture of blastomyces from a case of lupus.*

Ricketts[19] has isolated three varieties of blastomyces from seven of Professor Hyde's cases.

In discussions before the Chicago Medical Society it has been stated that these eruptions contain not three, but seven, different varieties of blastomyces. I can not conceive of a disease being due to seven different varieties of a given micro-organism. There are a great many varieties of actinomycoses, some of which are saprophytic, and the same must be true of these micro-organisms.

A study of the history of the fungating syphilids shows that in the past from time to time first one disease and then another has been excluded from this classification. Kaposi has participated in this work of sorting out diseases from among these vegetating syphilids, and it is very possible that the time has now arrived when we will be able to separate one more disease, which has heretofore been concealed among these eruptions. There are several facts which might be mentioned which support this contention, but there are a good many which indicate that such is not the case. It is a matter of doubt. There is very little evidence in support of the contention that blastomyces is the cause of the disease.

Before any conclusion can be arrived at, a thorough study of blastomyces occurring in cases of surgical tuberculosis must be made.

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DISCUSSION.

Dr. J. Nevins Hyde, Chicago—I am already on record on this question and have nothing to add to what has been already set forth in print. I would like to ask Dr. Montgomery to say something about an interesting case, of which he has full records, and which we regard as the missing link between the cutaneous forms of blastomycosis and those in which there has been visceral involvement, as in the well-known record made by Busse and Buschke of their patient.

Dr. F. H. Montgomery, Chicago—There are two or three interesting points in regard to this particular case, which has been under observation for a number of years. There was a diagnosis of syphilis or carcinoma and tuberculosis, the case being passed upon by competent pathologists. I showed it to at least a dozen excellent pathologists in this country and Europe, and each one said it was not tuberculosis, it was not syphilis, it was not carcinoma. The nearest they could come to it was that it was syphilis and tuberculosis. The case was considered unique. I will not go into details, the primary records, which were lost, have been recovered and the slides are in our possession showing infection of the lungs with blastomyces. The clinical history pointed to systemic infection and the man died of infection resembling recurrent attacks of pneumonia. In the other cases, twenty-five or fifty of them, having a distinct clinical type of cutaneous lesion, differing as a whole from all other known dermatoses, blastomyces have been found in the tissue, in many of them a dozen or more have been discovered. From these organisms animals have been inoculated and lesions produced in internal, deep-seated organs, blastomyces recovered and again cultures produced and cutaneous lesions developed. We are not able to produce these typical lesions in man. We can not take lesions from a typical verrucous cutis and produce them on the skin. Regarding the statement of authorities previous to any knowledge of blastomycosis, these men knew tuberculosis, they know syphilis and they recognized cases that did not belong to either category; they tried to assign them to some known disease.

Dr. Joseph Zeisler, Chicago—Inasmuch as Dr. Anthony has honored me by expressing an opinion I gave some time ago, I feel that it is my duty to place myself on record by stating that I am rapidly coming to the opinion held by Dr. Hyde, Dr. Montgomery and others who look upon this group of cases so far observed as belonging to a distinct entity and probably due to a peculiar organism. My change of mind is largely due to clinical observations made possible by the presentation of a series of cases by Drs. Hyde and Montgomery which seem to me remarkable. As long as we could judge these cases only by pictures I had doubts, but I have recently had occasion to see the difference of observing a disease on the living subject and I am almost prepared to say that the next case of blastomycosis that comes to me I will not wait to judge from the clinical lesion. I believe all of us who can look back over an experience of twenty years in dermatology, if we could go over our cases, would find one here and there that baffled us; sometimes there was a diagnosis of vegetable syphilid, sometimes of a peculiar tuberculosis of the skin, sometimes a new formation, and so on. I think Dr. Hyde and Dr. Montgomery deserve a great deal of credit for placing the clinical picture of this disease in such shape that we shall soon be able to recognize it without the aid of the microscope. They have demonstrated in all their cases the same micro-organisms, which are not found elsewhere, and the value of their discoveries should be recognized.

Dr. A. W. Brayton, Indianapolis—I do not recall anything more interesting in dermatologic discussions than the report of the Dermatological Association at the meeting in Washington, unless it be the frank statement of Dr. Zeisler in regard to his present attitude on this subject. Of course, on the outside we recognize that there have been two camps in Chicago regarding blastomycosis and its relations to syphilis and tuberculosis. It has been my fortune to meet three cases, which occurred in our city, of which I have made some notes embodied in a paper I shall present to the Section. I am familiar with the opinions of gentlemen living in localities where this disease has not occurred, Drs. Bowen and White of Boston and the group of New York dermatologists, in whose practice it has not been met. I had in mind with that group Dr. Zeisler until his very frank admission this afternoon that he, like Dr. Johnson, of New York, may have entertained for a time erroneous opinions in regard to the etiology of that very definite clinical condition that goes by the name of blastomycosis of the skin, blastomycetic dermatitis—the name given by Gilchrist and which out of courtesy to his work will go down in history as the proper name for this disease. I am glad that Dr. Johnson, after having conversed with Dr. Welch, of Johns Hopkins, and gotten his views in regard to the etiologic relationship of the yeast plants that are found in the lesions, modified his conclusions, as Dr. Zeisler has done this afternoon.

I was struck with Dr. Zeisler's statement, and have included the same views in the notes I have prepared for presentation, that if he were to see in his dermatologic practice now a disease presenting certain features he would promptly regard it as blastomycosis upon the clinical presentation alone. I have only seen three cases. I saw Dr. Hessler's case, and am reminded that these yeasts differ under different cultures. The yeast in Hessler's case, Plimmer's yeast, and the yeast in the case I diagnosed on April 10, and discharged as cured just before coming here, differed. I regard it as a very simple thing to diagnose in the two cases I have met and studied clinically, and the accounts I have read of other cases coming directly under the care of gentlemen in Chicago, agree with my own; it is quite possible, I think, when you see a case in your office to conclude that it is blastomycosis. You take it in connection with the clinical progress; rule out syphilis; rule out tuberculosis; rule out cancer and you have an entirely different clinical picture. Take the last case I had, a woman of 23, who eighteen or twenty months ago had a slight abscess on the finger, which spread in spite of various treatments until it involved nearly the entire surface of the little finger and part of the ulnar surface of the right hand. The inflammation, the irregularity, the excessive pain, a boring, constant pain at night, which were present in these two cases I think of great value in the diagnosis. It is a matter of considerable interest that these cases should have developed to such a great extent in Chicago, and the dermatologic profession is fortunate, I think, in having men there who took it up with the insistence and persistence they have shown. It is good that they were divided into two camps for study and research, bringing out the full details of these cases; such papers as Dr. Anthony's are highly stimulative. But I am surprised that so many pathologists, going over their material for a long time back, did not find the yeast plant in the tissues. I presume there are good reasons for it; most likely its absence. We have no explanation at hand for its prevalence in Chicago. There are certainly localities where yeasts are abundant.

Dr. R. R. Campbell, Chicago—Dr. Anthony's paper recalls a case we met with at the Policlinic about five years ago, which, with our knowledge at that time, we diagnosed as syphilis, but the microscopic findings presented something peculiar, the nature of which was never determined. The patient was placed on iodid of potassium and in three days returned with marked iodidism, claiming that he had caught cold, the eruption presenting an inflammatory reaction which the patient described as erysipelas. He was kept on the iodid for some time and in about six weeks the eruption entirely disappeared. Up to the present time no further manifestation of the eruption has been noted. That these cases, with those of actinomycosis and syphilis, disappear under the iodid is rather unfortunate as no stress in the diagnosis can be laid on the fact of their disappearing under the iodid. To my mind there is no question but some cases of syphilis very decidedly resemble blastomycosis as described by Dr. Hyde, and as shown in some cases I saw through the courtesy of Dr. Hyde at the Chicago Dermatological Association. I do not think, however, that Dr. Hyde claims, as Gilchrist says he does, that it can be clinically and positively diagnosed at the present time.

As to the disease occurring more frequently in Chicago than in other places, I do not think there is any peculiarity about that. The disease was taken up there and investigated by Drs. Hyde, Montgomery and Ricketts, and it simply shows more industry on the part of Chicagoans than others.

Dr. Maximilian Herzog, Chicago—It appears highly probable that the condition which has been called blastomycetic dermatitis is a disease *sui generis*. I do not feel competent to decide from a clinical standpoint whether this disease is to be always looked upon as a primary condition or whether it may be engrafted upon syphilis or tuberculosis. It is certain that the disease under discussion presents a characteristic histopathology. We find the following: An extensive proliferation of epithelial structures. The epithelial cells in proliferating form pegs which penetrate deeply into the derma and the subcutaneous connective tissue. We do not, however, find, as we do in carcinoma, a tendency to form well-defined alveolar nests. In the proliferated epithelial structures we find small miliary abscesses, the abscess cavity being filled with ordinary polynuclear leucocytes, eosinophilic cells and plasma cells. It is right here in these abscesses where we find the double-contoured micro-organisms which have been called blastomycetes. Drs. Hyde and Montgomery and their associates certainly ought to be complimented on the great enthusiasm with which they have taken up the subject of blastomycetic dermatitis and upon the extensive results they have obtained. I have had an opportunity to examine a number of pure cultures and micoscopic preparations derived from their cases and presented at one of the last meetings of the Chicago Pathological Society. From the statements then made by Dr. Ricketts, who did most of the microscopic work in connection with the cases of Drs. Hyde and Montgomery, and from my own observation then made on their material, it appears to me that from their cases were obtained three kinds of micro-organisms: 1. A type which does not form any spores and which therefore would have to be classed with torula or oidium. 2. A type which forms spores and which ought therefore to be classified as a true saccharomyces. 3. A micro-organism which forms a mycelium which divides dichotomously and which forms spore-bearing hyphen. The latter micro-organism approaches in type such higher moulds as aspergillus and verticillium.

I believe Dr. Montgomery is mistaken when he says that Dr. Ricketts succeeded in changing one of these forms into another by merely transplanting on different culture media. To the best of my knowledge Dr. Ricketts never succeeded, for instance, in changing a non-sporulating form into a sporulating form, or vice versa. In view of these facts it appears to me that the etiological relation between these different types of micro-organisms and blastomycetic dermatitis is not yet fully established, because it seems somewhat strange that micro-organisms so different in type should produce an absolutely identical histologic picture. The case of actinomycosis which has been cited is not fully identical with the present case because the different forms of actinomycosis do not vary as much as the different forms of micro-organisms found in the skin disease, now generally called in our country blastomycetic dermatitis, do vary. We must consider the possibility that the micro-organisms found are present only in a symbiotic relation in our disease and that the true cause of what we call blastomycetic dermatitis may be still hidden away from us. You know that yeast-like micro-organisms have been found by San Felice in sarcoma, yet we can not consider that their etiological relation to sarcoma is fully established. The same, it appears to me, is true of blastomycetic dermatitis. Yet, be this as it may, I can only repeat what I said before, that Dr. Hyde and his associates deserve all possible credit for the work which they have done in connection with the disease under discussion.

Dr. F. H. Montgomery, Chicago—Dr. Ricketts did not intend to make a positive statement classifying these under three different heads. He has not demonstrated to his entire satisfaction spores in any one organism. There are highly refractive buds, but none have been found distinctly in the capsule. The spores have not been cultivated. The truth is that investigators are not yet ready to give us a definite classification of these organisms. Another fact along the same line is that investigators have demonstrated a number of distinct species which are pathogenic, so it is not necessary to limit the origin to one species of blastomyces. As to the posibility of it being a bone tuberculosis or bone syphilis, of course we can not say. We are accumulating evidence and are trying to present it but are not drawing absolute conclusions as yet. With a series of cases of these very severe, extensive lesions lasting from two or three to ten or twelve years, where there is no history and no other evidence of syphilis; it is certainly a strong argument against syphilis.

Dr. **Henry G. Anthony** (closing the discussion)—At the recent meeting of the American Dermatological Association I had the pleasure of listening to a paper on blastomycosis by the president of the Association, Dr. Shepherd, of Montreal. He showed lantern slides of cases of very peculiar granulomata which had passed under his observation in times past, and which he stated he would examine for blastomyces, were they to come under his observation to-day. His remarks recalled to my mind figure 216, page 733, of Taylor's work on "Venereal Diseases," edition of 1895, which is cut of a papillomatous syphilid such as we have under consideration; consequently I showed this cut to Dr. Shepherd and asked him if he would examine such a case for blastomyces; he said he would and that the fact that blastomycosis is influenced by potassium iodid convinced him that cases of this disease had been heretofore reported as cases of syphilis. I refer to this matter with the Doctor's permission.

I hope that I have not given the impression that I have not a full appreciation of the work done by Professors Hyde and Montgomery. I do not think there is anyone who appreciates any more fully the value of their work than I do. Dr. Montgomery states that he has not drawn any positive conclusion in regard to this disease; neither have I. I distinctly stated that I had not drawn a positive conclusion and that I hesitated as to whether we might look upon the disease as a distinct entity.

In regard to Dr. Hyde's remark about Dr. Bowen, I wish to say that I had no intention of quoting Dr. Bowen in regard to the relation of blastomycosis and syphilis. I thought that the way I worded it was clear. He referred to the subject in general; he meant he was not absolutely convinced that blastomyces caused the disease.

In regard to the distinct clinical type, I think I can pick out a case of blastomycosis as well as almost anyone; but at the same time I feel that the cases which can be picked out are in the minority; that there are just as many, even more cases, in which no man can say beforehand that the blastomyces are present in the given case. I have seen such cases and that is why I have not laid such stress on these distinct clinical features as others do. Furthermore, I showed a case at the meeting of the American Dermatological Association which everyone who saw the case, acknowledged did not present the characteristic appearance regarding which so much has been said.

In regard to the importance of the case Dr. Hyde referred to in his first remarks, the reason why I did not lay as much stress on that as he did, was because of the fact that the blastomyces were discovered in it, and the importance of the case was worked out and realized so long after the observation of the case that it seemed to me to throw it into doubt.

The statement made before the Chicago Medical Society, that these eruptions contain seven different varieties of blastomyces has not been published; hence, it may be disputed; but there can be no disputing Dr. Rickett's statement, that he found three different varieties of blastomyces in Dr. Hyde's cases, because he has published an account of his findings in the *Illinois Medical Journal*, reference to which I have appended to my paper. He says: "From seven cases the organisms have been cultivated. They fall into three groups: 1. The yeast-like, resembling those of Hektoen, Hessler, Busse and Curtis. 2. The oidium-like. 3. The mould-fungus type, resembling the organism isolated by Ophüls and Moffit from the protozoic (?) disease." Study shows that all these have common generic properties, and are separated only by specific characteristics which are more or less variable. In accordance with pre-existing nomenclature, they all belong to the genus oidium. "Blastomyces" is considered not sufficiently inclusive.

A CASE OF ERYTHRODERMA SQUAMOSUM.

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A group of mild affections of the skin of a transitory nature, characterized by a desquamation of the epidermis, was called pityriasis by Bateman. Biett gave a more definite meaning to pityriasis, which he considered a mild chronic inflammatory process of the most superficial layers of the derma, accompanied with continuous exfoliation of small epidermic scales. Devergie gave an interesting description of pityriasis, which he called rubra, and we can say that he established a new pathological entity. Pityriasis rubra (Devergie), however, has nothing to do with another disease of squamous nature, which was after a while described by F. and H. Hebra under the name of pityriasis rubra. F. Hebra[1] said that the name pityriasis rubra could be given to any disease of the skin which during its whole course was not accompanied by any other symptoms but a constant, intense, brownish-red discoloration, without marked infiltration, without formation of papules, fissures, vesicles or discharging, with some itching sensations, seldom localized, but usually spread over the whole surface of the body. He referred to only 14 cases to his knowledge, showing it to be a rare disease, having usually a fatal termination. The patients are extremely sensitive to cold, complaining of continuous chills. The disease progresses without any interval, the skin is deeply red and is covered with thin scales. Gradually the skin becomes thin and shiny, showing a certain degree of sclerosis; the hair becomes dry and brittle, and falls off; the nails easily break, the whole process seems to be that of an inflammation of the chorion and of the epidermis, terminating in atrophy of the skin. The syndromic picture of the disease shows a very severe affection, while it is possible that cases of the same pityriasis may exist limited to some part of the body and of benignant nature. Vidal and Brocq have referred to cases of pityriasis of different degrees of intensity, from a very mild to those of a pernicious nature. In the dermatological practice the observation of eruptions consisting of red patches covered with thin epidermic scales not rarely occurs, and these eruptions are not accompanied by severe symptoms of malaise nor by deep affections of the general system. James C. White[2] referred to a case of this kind, which he called by the name of the author, Brocq's *erythrodermie pityriasique en placques disséminées.*

The name of *erythrodermies exfoliantes* was first applied to these eruptions by Besnier to characterize a group of affections the symptoms of which are a red surface (*erythros,* red) and a continuous desquamation. In his classic notes to the lessons of Kaposi this group of squamous affections of the skin is headed by the name *erythrodermies exfoliantes lentes ou chronique idiopathiques primitives.* These he divides into four varieties. One is a form of a chronic dermatitis with different ways of starting, which after a long chronic stay ends in a condition of the skin somewhat like that of the pityriasis rubra. Another type is a kind of dermatitis of a tardy and chronic course, accompanied with a leukemic condition, enlarged lymphatic glands, and also to the pre-mycotic stage, which although confused with eczematous forms, are yet neatly separated. A third variety consists of a kind of dermatitis spread on the whole surface of the skin, red, with fine scaly epidermis, connected with latent infections, chronic suppurations, etc. The fourth variety, as sketched by Besnier, would be a kind of pityriasic condition of the skin, which remains as the result of pityriasis rubra follicularis.

It will be interesting now to refer to the history of the case, a boy, F. B., 3 years old, well developed, well nourished, with blond hair, white skin, blue iris. He is the youngest of seven children from healthy parents. The parents say that all their children have had the same affection in a milder degree between the ages of 4 and 8, relapsing in character, lasting from several weeks to several months. The little patient is already suffering for the third time from an attack of this kind, the first being when 2 years old, the second on Jan. 18, 1901, for which he was in the hospital four or five days, and the third relapse is the present, entering the Hospital on March 5. The patient has never suffered in general health; pulse and temperature have always been normal; he has never had sore throat or any other complaint. The skin of the entire body, with the exception of the palms of the hands and soles of the feet, is red and covered with scales, varying in size and appearance according to the different anatomical regions. Although the eruption is so universal, yet when the scales have been removed the red surface showed that they were made up of round patches of considerable size and by their confluence appeared the *uniform redness*. The redness disappeared somewhat when pressed under the finger, to return immediately. No papillary or follicular projection could be seen on the whole red surface, nor were the furrows of the epidermis altered. No subjective symptoms were present, the little patient never scratched, never complained of any pain. The redness was of a light rose-red hue, which was somewhat deeper in color when exposed to the cold air. The whole surface was covered with thin white scales of different appearance according to the different anatomical regions. On the forehead the scales were somewhat thicker and mixed with the cutaneous *smegma* and remained adherent with a tendency to form a whitish layer. (Fig. 1.) The hair is abundant, brown in color, in normal condition, but the scalp is covered with thick scales which, as in the forehead, have a tendency to accumulate. The neck was also covered with scales which were very thin in the anterior part and thicker and more abundant in the posterior. (Fig. 2.) The whole body was covered with scales covering red surfaces of the skin; they were much thicker and more abundant on the sides of the chest and abdomen, while the anterior surface of the neck, the sternal region, the middle of the abdomen, pubis and genito-crural regions were entirely free. (Fig. 3.) The shoulders and the back were just covered with scales, and in the same way the arms and the legs showed that they were deeply affected by the eruption. The hands had a few scales around the wrists, the phalanges were free from eruption and the palms and soles were perfectly normal. The nails did not show any alteration. The skin appeared rather rough, but taking it in folds did not show to the touch marked infiltration. Two applications of cod-liver oil on the body were sufficient in order to have all the scales detached, leaving the surface of the skin in the form of round red spots disseminated over the body. In these spots no papules or no follicular projections could be found, showing that the affection consist of a superficial process of the superficial layers of the derma and of the epidermis. That the disease is not the result of a permanent alteration of the general system is shown by the short period of the attacks, and by the easy yielding of the same to treatment. Furthermore, at the beginning and during the attack no fever, no itching, no stomach or bowel complaint ever caused any sufferings of the patient. The urine has been found constantly of a normal acid reaction and specific gravity, and normal in qualitative contents. The blood examination was made with the following result: red corpuscles, 5,400,000; white corpuscles, 8400; small lymphocytes, 23 per cent.; large lymphocytes, 2.1 per cent.; polynuclear, 73 per cent.; eosinophile, 1.4 per cent, showing that the blood is in normal condition. In different bullous affections we have found the eosinophile bodies increased to 19 per cent., and in one case of dermatitis herpetiformis (Duhring) at the time of an attack the eosinophiles reached 43 per cent.

The bowels were perfectly normal, the boy enjoyed a good appetite and perfect digestion. He never complained of any discomfort, was of a rather quiet and peaceful disposition. He slept soundly, never woke up at night, showing the mildness of the affection, which had not much influence on the general system.

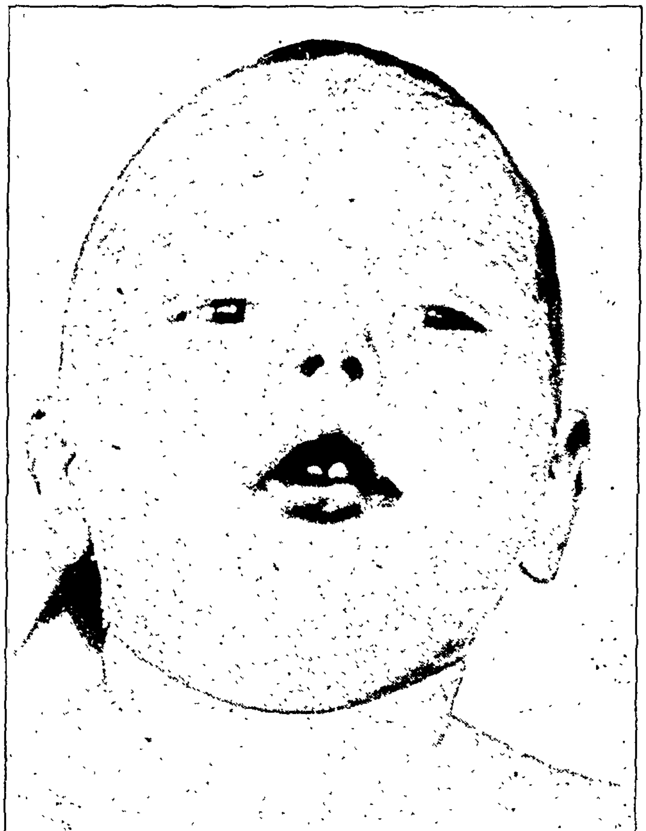

Figure 1.

This peculiar affection, which had already relapsed three times in the little patient, had nothing to do with any of the common diseases of the skin. It was not an eczema, nor an eczema seborrhoicum, it was not psoriasis nor a pityriasis rosea. Although somewhat like ichthyosis, yet it had nothing to do with that disease, which is a permanent skin affection. The erythema scarlatiniforme was soon eliminated, knowing that it is a disease with a cyclic evolution, accompanied with fever and inflammatory symptoms of the skin and mucous membranes. There remained for my case only one nosological place, which is between pityriasis simplex and pityriasis rubra (Devergie), a disease which has for its principal symptoms redness of the skin and exfoliation of the epidermis, a disease mild and relapsing in character, causing no general reaction and no subjective symptoms. It is therefore an affection which finds its place among the *erythrodermies exfoliantes lentes ou chroniques idiopathiques primitives*, as established by Besnier, with some affinity to the affection called by Brocq,[3] and accepted by James C. White as *erythrodermies pityriasique en plaques disséminées.* I said some affinity with the case of Brocq, for the reason that he described the disease as made up of spots varying in size from 2 to 6 centimeters, while in my case the spots were larger and more confluent so as to form an equal surface. The age of the patient must surely have had a great influence upon the appearance of the disease, when we think that the patient of Brocq was a woman of 45, the patient of White a man of 38, and my patient a child of only 3 years, and it was only the third time the affection has made its appearance.

Pathology.—A piece of skin was removed from the deltoid region, and was treated in formalin 2 per cent., hardened in alcohol and the sections stained with hematoxilin (van Giesen), and polychrome methylene-blue by my assistant, Dr. M. L. Heidingsfeld.

In the specimens as it appears from the accompanying illustrations, Figs. 3 and 4, the horny layer is thicker and ragged with epidermic shreds, but the stratum spinosum and granulosum have a normal appearance. The stratum lucidum is fairly preserved, while it was lacking in the case of White. Although microscopically no papules and no alterations of the furrows of the skin were present, yet in some places the papillæ are somewhat enlarged, forming a kind of flat papillary elevation consisting of four or six papillæ. The blood vessels are greatly enlarged and can be seen in the papillæ and in the chorium. An infiltration of small cells is especially remarkable in the connective tissues of the papillæ and in the subpapillary layer. These infiltrating cells are found always more abundant around the blood vessels, which show a great increase in their perithelium. The glands and the hair follicles are enlarged and their epithelium is somewhat increased.

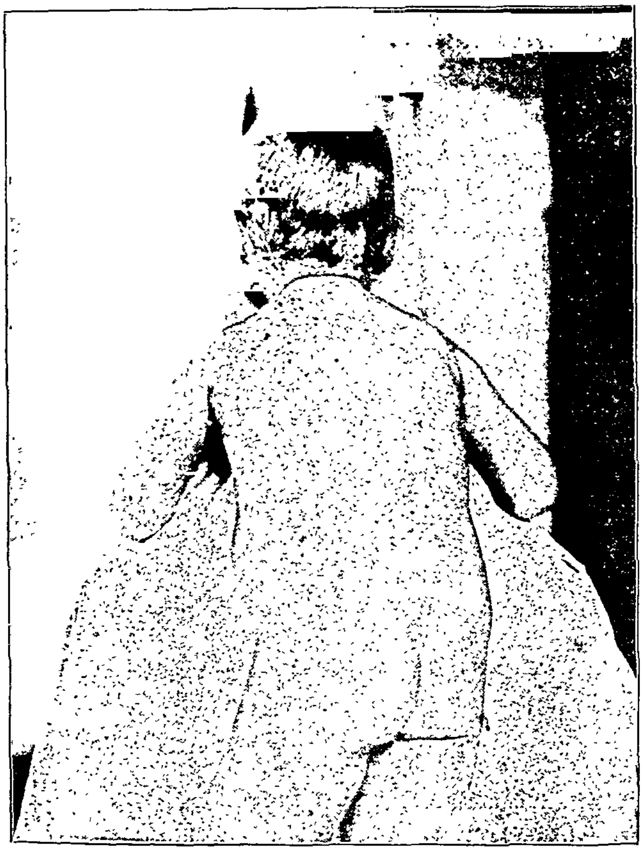

Figure 2.

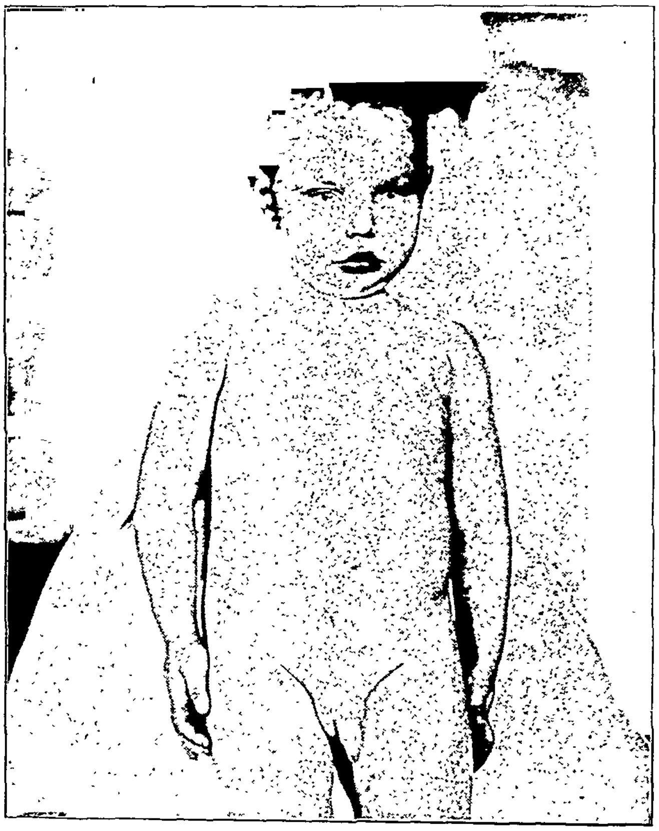

Figure 3.

The entire pathological feature of the erythroderma consists in the enlargement of the blood vessels and in a perivascular cellular infiltration, which produces alteration of the nutrition at the epidermis and as a result the hardening and the exfoliation of the horny layer. These are signs of a well-marked inflammatory process revealed by the increase of the cells of the connective tissue of the papillary layer and around the blood vessels of the subpapillary layer. These cells are different from those which are found in the subepithelial layer in cases of lichen.

In erythroderma the patches of the skin are red, rough and scaly. Unna[4] points out two important characters which differentiate erythroderma from pityriasis rubra (Hebra) and pityriasis rubra seborrhoica, which consist in a mild cellular infiltration of the papillary layer and the marked adherence of the epidermic scales. Pityriasis rubra pilaris and ichthyosis are to be referred to hyperkeratoses, while erythroderma is only a parakeratosis spread to large surfaces of the body. In pityriasis rubra pilaris the enlargement of the pores of the skin is pronounced in form of papules of different size and elevation, while in erythroderma no apparent papules are to be seen nor enlargement of the furrows, but only a red flat surface covered with brown-like scaliness.

I do not find that our case has much similarity to the erythrodermie in the sense of v. Düring,[5] who describes it as presenting a general diffused redness and infiltration of the skin, which is developed in lichen neuroticus from the follicular papules and from interfollicular erythema, which disappears leaving a deep browning pigmentation. In our case no apparent papules nor enlargement of the pores can be seen, but pathologically we have found an increase of the papillæ with enlargement of the blood vessels and accompanying infiltration of small round cells in the papillary and subpapillary layer and a desquamation of the horny layer.

Differential Diagnosis.—Indeed, a physician who has not much practice with squamous affections of the skin, finding himself in the presence of a case like this subject of our study, where the surface of the body is all red and covered with scales, would find some difficulty in establishing a nosological place for the disease. As stated above, this affection has no relation to the pityriasis rubra of Hebra, which from the beginning to the end is revealed by an intense redness of the skin with a thin desquamation of the epidermis. The redness is universal, the disease progresses constantly without intermission. The skin gets thinner, brilliant and retracted, ending in a sclerotic atrophy. In erythroderma the redness which appears equally diffused, consists of groups of eruption in red round patches, which have appeared clearly after removing the scales by means of annointing the skin with cod-liver oil. This clinical characteristic is perfectly in accordance with the pathological alterations where we have found places where groups of papillæ were somewhat enlarged and somewhat above the level of the others, as shown by our illustrations.

The difference between the two affections is therefore neatly marked by clinical and pathological characters. Erythema scarlatiniform, so well described by Besnier, and pointed out first by Ferreol under the name of desquamation scarlatiniforme recidivante, is an acute affection, accompanied with fever, general malaise, sore throat, with an eruption of red patches, itching and burning, which after four or five days begins to desquamate. This nosological type is entirely different from our erythroderma squamosum, where the scaliness on a red surface forms the principal characteristic of the disease, where no acute invasion, no subjective symptoms, no fever have ever appeared.

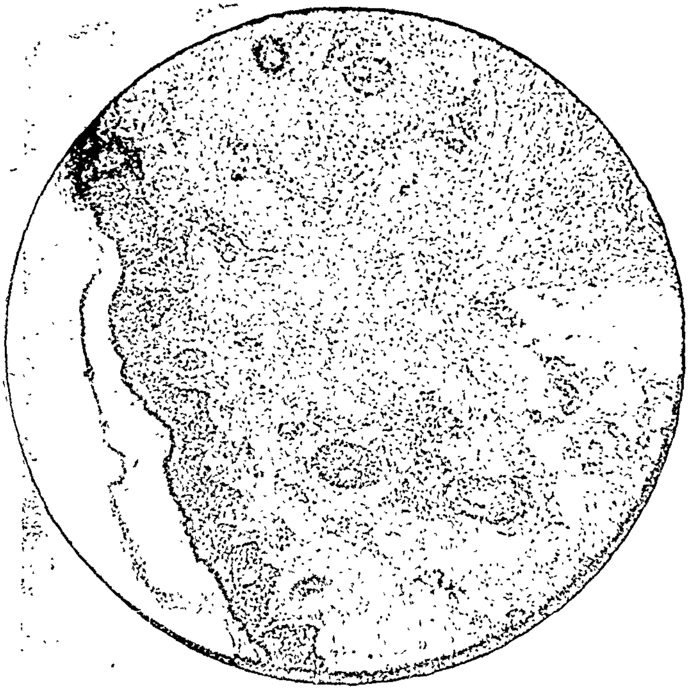

Figure 4.

Etiology.—The pathogenic causes of the erythroderma in general are extremely obscure and difficult to be established. In our case we can not find any apparent cause which externally may affect the skin directly, but we must rather admit a cause probably of a toxic origin formed in the system, *which affecting* the center of the *vasomotor* nerves is capable of producing hyperemia of the chorium with exudation and consequent alteration of the nutrition of the epidermis as revealed by the scaliness. From the statement of the parents that their other children between the ages of 4 and 8 years have suffered attacks somewhat similar to those affecting our little patient, we could infer that there must be some autotoxic condition in the whole family of an hereditary nature which is capable of producing those attacks. All that we can say is to resort to the explanation so well given by Tommasoli of the autochthonous poisonings which are formed within the system. In fact, an alteration of the physio-chemical condition of the fluids of the organism may easily happen. Ptomains are easily formed on account of retained toxic elements, which in some cases may favor the multiplication of microbes, and in other cases may produce disturbances of nervous and vasomotor nature, *which make their appearance* on the skin.

Treatment.—In regard to the treatment, the affection has easily yielded to our method, which has consisted in removing the scales by annointing the whole body with cod-liver oil and then wrapping the patient in a coarse woolen blanket. After two days the skin was perfectly free from the presence of the scales. Then an application of vaselin with resorcin and salicylic acid according to the following formula, has brought the skin to a normal condition.

℞: Resorcin	ʒss	2	65
Acid. salicyl	gr. x		
Vaselin fl.	℥i	32	

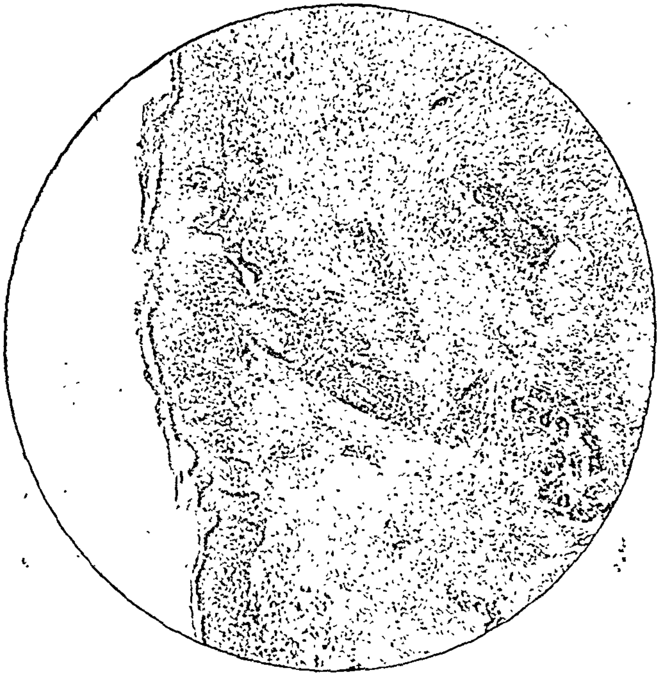

Figure 5.

Internally we have given a solution of potassium arsenitis (Fowler), from three to six drops three times a day.

From the results of the treatment it is clear that the affection is of a benignant nature, which does not produce severe symptoms, but it has the tendency to relapse, *showing that the cause producing* the affection has its seat in the system from autotoxic origin.

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The Physician at Watering Places.—At the recent German Congress of Balneology, Liebreich *observed that it is the* physician, more than the chemical factors, that make the success of a mineral spring resort. He ascribed to this fact the fine results attained in the German watering-places, *which lead the world, he asserted.*

Clinical Report.

HIP-JOINT AMPUTATION BY MEANS OF THE WYETH PINS.

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The issue of May 19, 1901, of THE JOURNAL contains an interesting article by Professor Wyeth on "Bloodless Amputations at the Hip-Joint." The writer having had recently a case desires to report it as follows: C. H., aged 8, residing at Corning, Ohio, fell from a tree, a distance of 20 feet, sustaining a compound fracture of the upper third of the left femur. Oct. 27, 1900, three weeks after the accident, he was brought to St. Anthony's Hospital in a septic condition. Pulse was 140; temperature 104. The limb was much swollen and filled with pus. An incision was made on the outer aspect of the thigh and considerable pus liberated. The muscular structure was found to be disorganized, the bone comminuted, and the medullary canal filled with purulent matter. The bone was devoid of periosteum for more than five inches, and no evidence of bony union found.

His condition demanded immediate operation and it was decided to amputate at the hip-joint by the Wyeth method. After thorough preparation, the patient was brought to the operating-room the following morning and chloroform administered. Fifteen minutes previous to the giving of the anesthetic, morphia one-fourth grain and atropia one one-hundredth grain, were hypodermically injected. The limb was deprived of as much blood as possible by elevation, no bandage being used for fear of driving septic material into the circulation. Two long mattress pins were then introduced, and Esmarch's tourniquet applied. No trouble was experienced during the operation until disarticulation was commenced. Owing to the shortness of the shaft of the femur rotation was exceedingly difficult.

After the ligation of the vessels the tourniquet was removed and but little oozing occurred. This was effectually controlled by hot moist compresses. A drain was placed at the acetabulum and brought out at the most dependent part of the stump. Muscle was coaptated to muscle, and the skin flaps approximated by catgut. Retention sutures of silkworm gut were also inserted. But little shock ensued and convalescence was rapid.

Another case in which the writer made use of the mattress pin was one of amputation at the shoulder joint. Miss S., aged 18, residing at Delaware, Ohio, was brought to St. Anthony's Hospital, April 29, 1897, suffering from gangrene of the left hand and forearm. Two weeks previous to her admission to the hospital the parts were caught in a steam-laundry roller and badly mangled.

Disarticulation at the shoulder-joint was performed April 30, the pins being used with complete satisfaction. No blood was lost until the last stage of the operation was reached. The principal vessels having been ligated, the tourniquet was removed and the flaps partly brought together, when suddenly a most violent capillary hemorrhage occurred.

Much difficulty was encountered in arresting this, but by means of continuous pressure it was finally controlled. Notwithstanding the great loss of blood, the patient evinced no shock and convalesced nicely. It was afterwards learned that she was one of the so-called bleeders.

New Instrument.

SPRAYING AND INSUFFLATING THE ACCESSORY NASAL CAVITIES.

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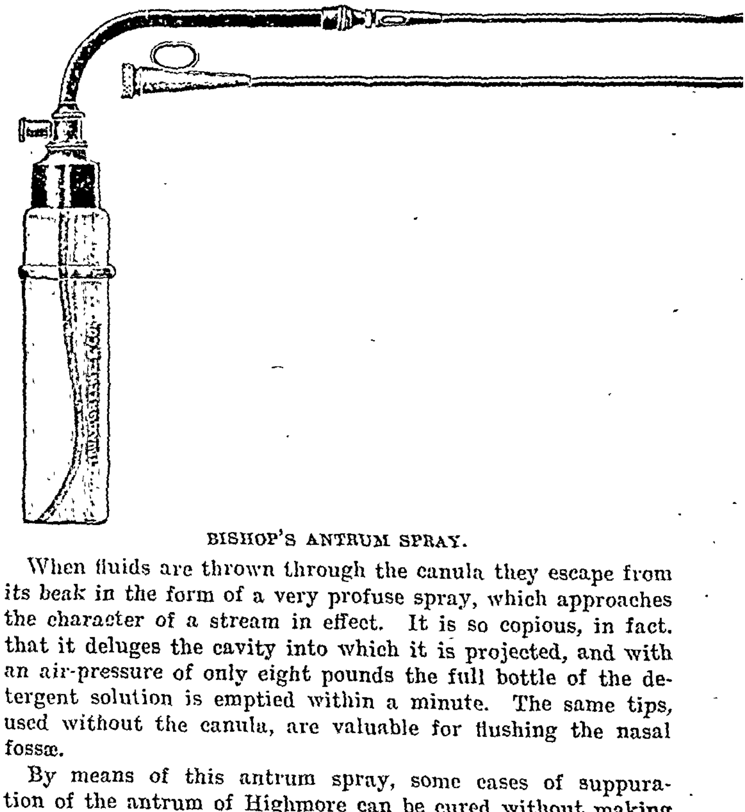
CHICAGO.

In suppuration of the cavities connecting with the nose the question of effectively cleansing and medicating them is a serious one. The ordinary nasal douche and sprays are inefficient. It is necessary that generous quantities of detergent solutions shall not only reach the affected parts, but that they shall flow over them with sufficient force to dislodge and carry away the offensive discharges.

The writer has devised a combination of canula and spray tips, shown in the accompanying illustration, which render satisfactory service. They are an adaptation of the Davidson atomizer fitted with spray tips having very large openings, and the outer tip being turned to fit closely into the conical opening of a special canula. The latter is made of silver, and is practically a modification of the Eustachian catheter. Instead of having the beak curved on the arc of a large circle, like that of the catheter, it is bent on the arc of a very small circle, so as to allow of its introduction into a narrow space.

This arrangement of the beak is required for the purpose of introducing it into the maxillary antrum, either through the ostium maxillare, or through an artificial perforation, for instance the opening made by way of the socket of a tooth.

The outer spray tip is so nicely adjusted to the conical mouth of the canula that there is no leaking at their junction, although the first ones made were defective in this respect; but a small piece of rubber tubing fitted over the outer spray tip, to join it with the canula, prevents the leaking.



BISHOP'S ANTRUM SPRAY.

When fluids are thrown through the canula they escape from its beak in the form of a very profuse spray, which approaches the character of a stream in effect. It is so copious, in fact, that it deluges the cavity into which it is projected, and with an air-pressure of only eight pounds the full bottle of the detergent solution is emptied within a minute. The same tips, used without the canula, are valuable for flushing the nasal fossæ.

By means of this antrum spray, some cases of suppuration of the antrum of Highmore can be cured without making an artificial opening, but the apparatus is just as effective for washing out the antrum after an operation. By rotating the beak of the canula, introduced through the artificial opening, the walls of the cavity can be thoroughly cleansed and medicated, as I have demonstrated many times.

If the canula is to be used in the ostium maxillare, the opening of the antrum is first located, the canula is introduced, and the latter is then marked at the point corresponding to the tip of the nose. This mark, in any given case, facilitates the introduction of the canula afterwards.

The same apparatus is useful in treating suppurative inflammation of the ethmoid cells, the beak of the canula being directed upwards so as to throw the coarse spray into the cells. Some patients with disease of the frontal sinuses have claimed that they could feel the spray from the canula enter the sinuses. I have not felt certain, however, that they were not mistaken.

After cleansing the suppurating surfaces, various powders, such as boric acid, aristol and nosophen, are blown through the canula to the diseased parts. When used as an attachment to the powder-blower the canula must be dry, hence it is advisable to have more than one for use in the combined wet and dry treatments.

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HOSPITAL MANAGEMENT.

It seems that in England a disagreement between the managers and the medical staff at the National Hospital for the Paralyzed and Epileptic[1] has resulted in a free, general discussion of the question of hospital management, with particular reference to the relations between the lay managers and the medical staff. The *Practitioner* devotes its number for June to a "symposium" on the subject, the opinions of a considerable number of representative persons interested in hospitals in one capacity or another having been secured. The vital question is whether hospitals should be wholly under lay management or whether the medical staff should not also have a voice in the government. Mr. Burford-Rawlings[2] set up the claim that the medical element should be entirely excluded from any part in hospital government. The reasons advanced by the gentleman in support of this view can not be considered as reflecting much credit upon his conception of the true mission of the hospital and the relations of medical men to its work. At all events, his contentions would not find many supporters among interested persons conversant with hospital matters in general in this country. The symposium in the *Practitioner* may be summarized as an absolute and sweeping condemnation of the Burford-Rawlings theory of hospital management. Among others, Prof. Clifford Allbutt takes a decided stand against the so-called "lay supremacy" in hospitals, and comments upon the condescending attitude seen in some managers toward the physicians, an attitude which we in this country observe more particularly in the politician, who for a brief period finds himself "interested" in the management of the county or city hospital. The opinions collected by the *Practitioner* are strongly in favor of adequate medical representation on the governing bodies of hospitals. It is quite evident that the highest degree of success, in the broadest sense, will be attained in hospital work only when the fullest sympathy and harmony obtain between the managers of the financial and other matters and the men entrusted with the actual care of the patients. The exact manner in which this sympathy is attained does not matter so much, provided there is opportunity for it to grow and develop. A hospital in which there is lack of real co-operation between the managers and the medical staff is like a house divided against itself. There are so many elements essential to success in hospital work of which the lay managers can have no idea, that they should be happy to turn over certain things entirely to the medical men, and there are other questions of diverse kinds which the medical man is not so well fitted to handle as the man of affairs. The influence of medical men is especially needed in order to overcome the idea, often prevalent among laymen, that admirable buildings, well-prepared food, smart nurses, and the requisite number of patients constitute the essentials for a successful hospital. These things are well enough; but the one thing needful to bring out of them the greatest service is encouragement of the scientific spirit in the medical staff.

NERVOUS TACHYPNEA.

The act of respiration may be modified by a variety of influences; thus, it is lessened in frequency by opium and its derivatives, rendered irregular by uremic poisoning, and increased in frequency by all states attended with deficient hematosis. The last-named condition is known as dyspnea. When the demands on the respiratory function are lessened by reason of an over-supply of oxygen, apnea results. Mere increased frequency of respiration, occurring in paroxysms, or constantly with paroxysmal exacerbations, but unassociated with organic disease, is known as tachypnea, and it is not an uncommon manifestation of neurotic disorders, particularly hysteria and neurasthenia. An analysis of forty cases of this character, observed among a total of 1155 cases of various neuroses, has been made by Dr. Reckzeh.[1]

The term tachypnea was restricted to cases in which the respiratory frequency was forty or more in the minute, and all cases were excluded in which the condition was not purely neurotic and functional, but dependent on organic disease. Fourteen of the cases occurred in males, and 26 in females. In the former, the accompanying nervous disorder was either neurasthenia or traumatic neurosis; in the latter, hysteria, with the exception of 2 cases of exophthalmic goiter and 2 of profound neurosis. The men were from 18 to 44 years of age—with an average of 26.54; the women, from 15 to 52—with an average of 23.12.

With regard to etiology, heredity was found to play an important part, seven cases exhibiting hereditary predisposition, sometimes direct, at other times indirect. In other cases, the resistance of the nervous system had been lowered by somatic or psychic influences, such as alcoholism, traumatism with concussion, mental depression, anger, fright, functional disorders of the heart, gastro-intestinal disorders, diseases of the sexual organs, sexual excesses and abuses.

Respiration was moderately accelerated and superficial continually in 19 cases, with slight paroxysmal tachypnea in 11 of these, and severe in 8. In 5 other cases there was marked tachypnea continually, with paroxysmal exacerbations; and in 16 there occurred attacks of tachypnea, mild in 8, and severe in 8, the breathing at other times being normal. The respiratory rhythm was unaffected in so far as expiration followed inspiration without a pause, although the relation of the first to the second was as 1 to 1, instead of 7 to 6. The onset of the attacks of tachypnea was always sudden, while their subsidence was more or less gradual. The type of respiration was generally costal; the vital capacity of the lungs was usually low.

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[1] See our "London Letter."

[2] Nineteenth Century, April.

[1] Berl. Klin. Wochenschrift, 1901, Nos. 17, 18 and 19.

No satisfactory explanation has been given for the occurrence of the attacks of tachypnea. It is thought, however, that the condition may be dependent on irritation of the vagus, resulting from psychic or other central or peripheral influences. This takes place in health, but under the circumstances in question it is more readily brought about.

The diagnosis of nervous tachypnea depends upon the exclusion of disease of organic character capable of causing increased frequency of respiration, and the presence of other neurasthenic or hysteric symptoms. The prognosis of the condition itself is good, although influenced by that of the underlying disorder.

The treatment is in part symptomatic, with such remedies as morphin, bromids, sulphonal, antipyretics, cardiants, and ice; and partly causal, directed to the relief of the neurasthenia or hysteria, with valerian, hydrotherapy, electricity, etc.

YELLOW FEVER AND MOSQUITOES.

For that final proof by experimentation of the cause of disease and its *modus operandi,* or for the collection of irrefutable evidence of pathogenesis, extensive use of animals has been necessary. The environment and other conditions upon which the proof depends of questions subjected to investigation may be absolutely controlled in this manner and accuracy of detail obtained to such a degree that the accumulated data assume the exactness of a mathematical proposition. Nevertheless, for some diseases and for certain problems the difficulties have precluded the use of animals and public sentiment has prevented the employment of human beings; this has been especially true of researches upon some of the infectious diseases.

Reed and Carroll, and the corps of assistants under them, in their investigations of yellow fever, have boldly waived all precedents of this character and have made use of human beings in experimentation with a success, in some respects, hitherto unparalleled. Without entering into the humanitarian phase of this procedure, except to note that in all instances the individuals experimented upon were "fully informed as to the nature of the experiment and its probable results," it is of interest to learn that the importance of the conclusions accruing from such courageous researches are in thorough accord with the novelty of the methods employed. The experiments in which human beings have been utilized and controlled in manners fully as precise as those of any animal experiments, have had as their product up to the present time, two conclusions; the rejection of the bacillus icteroides of Sanarelli as the cause of yellow fever, and proof of a connection between this disease and mosquito bites.

In an interesting summary of the work of this board,[1] Surgeon-General Sternberg reviews the familiar facts pertaining to the geographic and climatic prevalence of yellow fever with regard to its transmission by mosquitoes.

The failure of the experiments of Carlos Finlay, who first suggested this transmission, have been found to depend upon the length of time necessary for the "germ of yellow fever to develop in the bodies of the mosquitoes after they have bitten individuals afflicted with the disease. From this fact the thought at once intrudes that the parasite of yellow fever may be of a protozoan nature and allied to the organisms of malaria. In May of this year, Dr. Reed reported that yellow fever had been successfully conveyed to twelve human beings by mosquito bites. Some support to the mosquito transmission has been furnished by the inability to transmit the disease by experiments with clothing and bedding contaminated with vomites, excreta, etc., of the fever stricken; this has had as its corollary, that fumigation for prophylaxis is only of value as an insecticidal measure, and instructions to this end have been incorporated in a circular issued by the Chief Surgeon and Commanding General of the Department of Cuba, upon the approval of Surgeon-General Sternberg. It might be as well to direct investigation to the discovery of curative or abortive methods of treatment, as to the detection of the specific organism, for in some infectious diseases such treatment has long been highly useful, notwithstanding ignorance of the germs, e. g., hydrophobia and smallpox; moreover, the organism of yellow fever may, as hinted by Sternberg, be ultra-microscopic; it should be remembered[2] that Nocard and Roux, in their work upon pleuro-pneumonia of cattle, found an organism that was barely visible with a magnification of 2000 diameters. Finally, it is to be hoped, that by the use of collodion capsules, or some other equally ingenious technic, animals may be made susceptible to inoculation experiments and the use of human beings relinquished.

THE IDENTITY OF VACCINIA, COWPOX AND SMALLPOX.

It was the belief of Jenner that vaccinia, cowpox, and smallpox were expressions of the same disease; but this view has been warmly contested, and one of the early objections against the utility of vaccination consisted in the argument that one could not hope to confer protection from one disease by inoculation of another. This contention seemed supported by the difficulty encountered in transmitting smallpox from man to cow. Nevertheless, this has been accomplished in a number of instances. The inference seems justified, therefore, that by reason of certain biologic peculiarities, the cow is capable either of resisting entirely infection with the virus of smallpox, or of so modifying the latter that an attenuated form of the disease develops; and it may be concluded that the disease appeared the earlier in man, and from him was conveyed to the cow. The comparatively mild character of the disease when human beings were inoculated with smallpox for protective purposes seems not entirely without significance in this connection.

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[1] Yellow Fever and Mosquitoes. The Popular Science Monthly, 1901, July.

[2] Journal A. M. A., xxxiii, p. 1117.

Believing it not improbable that much of the cowpox in the prevaccination period was derived from the inoculated form of smallpox, rather than the ordinary variety, Dr. S. Monckton Copeman,[1] one of the ablest and most ardent of contemporaneous investigators in the subject, undertook to obtain for purposes of experiment virus from Nubia and certain parts of India where inoculation of smallpox is still practiced; but without success. However, he found that the monkey is susceptible to smallpox, the various phases of which in this animal closely resemble those observed in man; and accordingly he inoculated some monkeys, and from them successfully conveyed the infection to calves, with the development of lesions indistinguishable from those of typical vaccinia, although calves could not be infected with virus directly from human beings. Further, he was able to vaccinate successfully children with lymph from the inoculated calves, without any generalization of the eruption or the development of any bad symptoms. It would thus appear that it is necessary for some change to take place, either in the virus of smallpox or in the condition of the calf before inoculation of the latter by the former can be effected. The observation, further, lends support to the view that smallpox, cowpox, and vaccinia represent varying grades of intensity of the same infective process.

VITALITY AND CHEMISM.

In the issue of *Science*, June 15, the late Dr. Joseph Le Conte notices the fact that seeds exposed to intense cold (—180 to —250 F.) do not lose their power of germinating, and suggests that as chemical action is arrested at such temperature, life may be a form of energy akin to chemism. He, therefore, attributes life to a particular molecular arrangement, the extreme cold acting by temporarily changing this molecular constitution. This may do for a hypothesis, but it will require some at present apparently impossible research for its verification. His admission that life is a form of energy seems hardly warrantable with our present knowledge; it certainly does not come under any law of the correlation of forces; it is not convertible into any other form of energy. Le Conte says: "The essential nature of life, as of all energy, is activity; but there is a necessary underlying condition, i. e., a peculiar molecular constitution, which may be called potential life." It seems much more natural and reasonable to recognize in vitality a still more ultimate agency than chemism, which seems itself to act under the guidance of this vital principle, as it may more properly be designated, rather than a force or form of energy, and to admit its as yet mysterious and unexplainable nature. To claim that, because chemism also survives extreme exposure to cold, life must itself be an analogous force, appears to us a begging of the question. The possibilities of the vitalized cell do not appear to us explicable by any known law of physics or chemistry as yet discovered.

A PROOFREADER'S BLUNDER.

Josh Billings said that the difference between a blunder and a mistake is that, when one takes another's umbrella and finds that it a better one than his own, "that's a mistake," but when the umbrella is poorer, "then it's a blunder." Probably the other fellow would not agree with him. Whether to call the error in proofreading which occurred in this journal last week a blunder or a mistake we are not decided. As there was no harm done by it and as it probably caused a good many smiles, we are inclined to call it a blunder. The title of the leading article as it appeared in the table of contents read: "Poverty and Pregnancy, their Cause, Prevention and Cure," and as the author, whose name followed, is one of the oldest, best known and most respected members of the profession, there was probably a good deal of curiosity manifested on the part of some to know what ultra-Malthusian ideas would be found in the article. While "poverty and pregnancy" are quite likely to be found together, the two could hardly be considered together in regard to their cause, prevention and cure. As a rule typographical errors are explainable, but it is hard to explain how the word "pregnancy" could be mistaken for "degeneracy"; we shall not try, but simply call it one of the blunders of the Fourth of July. As misery loves company, there is a certain amount of pleasure in reading in the current number of our staid and respected contemporary, the London *Lancet*, an apology for using the words "a sour correspondent," which it insists should have been "as our correspondent."

THE COMMITMENT OF THE INSANE.

The newspapers have recently devoted some of their news and editorial space to a case in which an alleged lunatic was liberated by an Indiana court decision as not insane, and have dilated upon the occurrence as a proof that under existing laws sane persons are liable to be committed to the "living death" of asylum existence. There is nothing that more quickly stirs up the public than such a charge, and there has been an evident tendency to make the most of it. Without regard to the merits of the particular case or to the peculiarities of Indiana laws, it may safely be said that the danger of sane persons being long confined in public asylums is a minimal one. It seems to us also that the presumption is all in favor of the insanity of a person detained in an asylum under presumably competent and honest medical officers, however the courts may decide. Dangerous lunatics have been released by judges and juries as not insane and the same individuals have been recommitted by judicial procedure almost immediately as a measure of public safety. In other cases suicides, murders and other dangerous acts have quickly followed their release. In fact there is nothing less infallible than judicial decisions as regards insanity, that is, as regards its existence or non-existence in individual cases. In states where a judicial proceeding is required for commitment it is possible for perfectly sane persons to be found insane, and vice versa. The predilections, however, of courts and juries rarely permit the first error, while the latter one is probably frequent enough. There is a very serious possible danger of the enlargement of unsuitable cases in any popular agitation in regard to the supposed confinement of sane persons, and judges and juries should realize their responsibility and make sure by fully competent testimony as to the fitness for absolute liberty of anyone they order released.

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[1] British Medical Journal, May 11, 1901, p. 1134.

TYPHOID FEVER AND DIPHTHERIA.

As pointed out by Manges,[1] the development of diphtheria in the course of typhoid fever is probably often overlooked, principally on account of the stupid condition of the patient and because the physician does not often feel called upon to make thorough examinations of the throats of his typhoid fever patients. The older literature on typhoid fever contains frequent reference to pharyngeal and laryngeal complications of a diphtheric character, at least in the anatomical sense. While so thorough a writer as Curschmann, in 1898, practically denied the occurrence of true diphtheria in typhoid fever, several instances of this kind have been recorded both before as well as after Curschmann's expression of his views, more particularly by American writers, the diagnosis being fully verified by bacteriologic and cultural tests. Manges reviews these cases, adding six of his own in which the diagnosis of diphtheria was corroborated by cultural methods. Curschmann's statement is consequently incorrect. It is of importance that the possibility of true diphtheria developing in the course of typhoid be generally recognized, both for prophylactic and therapeutic reasons. Diphtheria antitoxin is borne as well by typhoid fever as by other patients, and it should be promptly administered, when necessary, in typhoid fever, so as to remove as thoroughly as possible the added danger of diphtheria, which does not seem to have any special influence one way or the other upon the clinical course of the typhoid fever itself. In many of the cases of mixed infection, especially the earlier ones, death resulted; in some instances the existence of diphtheria was not recognized until at the postmortem.

THE ETIOLOGY OF NOMA.

The etiology of noma has been made the subject of frequent inquiry in recent years, but the results have been otherwise than uniform. This is probably unavoidable on account of the large numbers of various kinds of organisms necessarily freely present in areas so exposed as those usually attacked by noma. It is true, however, that in several instances of noma competent investigators have demonstrated the presence of diphtheria bacilli. Beginning with Bishop and Ryan, in 1895, who described a pseudodiphtheria bacillus, or a true diphtheria bacillus of greatly reduced virulence, Freymuth and Petruschky, in 1898, found diphtheria bacilli associated with two cases of noma, one of the genitalia and one of the alveolar process. Both of these cases were cured by the use of diphtheria antitoxin. And now comes Walsh[1] with a report of eight cases of noma, in all of which he found B. diphtheriæ, as determined by the usual tests now in vogue. Most of these cases had measles, the disease which most frequently is succeeded by noma. Walsh points out that diphtheria is often seen with and after measles. In the St. Vincent's Hospital, from which his cases are taken, diphtheria and noma are also not infrequently associated. Walsh concludes that true diphtheria bacilli are found in many cases of noma, and that as noma is a form of gangrene it is not unreasonable that the diphtheria bacillus is the primary cause, at least in some cases, the putrefactive softening resulting from the growth of saprophytes. He thinks that when other pathogenic microbes, capable of causing necrosis, are found, then it may be that they are the primary excitants. A larger number of cases must be studied before the unity or multiplicity of the etiologic factor in noma may be definitely settled. The views of Walsh seem to harmonize well with the results of the bacteriologic observations so far, and if we grant that the bacillus of diphtheria is the cause of at least some cases of this destructive disease it at once follows that diphtheria antitoxin should be freely used in all cases of this kind, with a view to arresting the necrosis at as early a stage as possible in those instances started by the diphtheria bacillus.

THE MODE OF INFECTION IN ANCHYLOSTOMIASIS.

Anchylostomiasis is caused by a parasitic worm, the uncinaria duodenalis or anchylostomum duodenale, which inhabits the upper part of the intestine and produces, by removal of blood and possibly by intoxication, an anemic disease of extraordinary frequency in some parts of the world, especially Egypt, Italy, India, and also elsewhere. This disease is known also as Egyptian chlorosis, brickmaker's anemia, mountain anemia, miner's cachexia, etc. In the United States we are apparently free from the infection; at all events no observations have been made upon the disease in this country, except possibly in some of the southern states. The diagnosis is made by finding the eggs in the stools of persons with chronic anemia and wasting as well as more or less well-marked intestinal disorders. The mode of infection is supposed to occur through the drinking water, because the larvæ develop in moist earth, whence they may readily enter the sources of water-supply. In Egypt the disease is very common in those that work in damp soil, and, as indicated by the synonyms mentioned a moment ago, workers in the earth seem subject to the infection. Recently, Looss, of Cairo, has suggested another mode of entrance, namely through the skin. He found that when suspensions of larvæ are allowed to dry upon the skin there quickly results an area of redness and burning. The intestinal infection developed in his own case under circumstances that, he states, absolutely exclude entrance by the mouth, and while he was working with the larvæ. The fact that the larvæ sink to the bottom in reservoirs of water does not seem to him to favor the mode of entrance ordinarily accepted. Looss placed a drop of larval suspension upon the skin of an extremity an hour before amputation and carefully examined the area afterward. It was found that the larvæ penetrate freely into the hair follicles; this accounts satisfactorily for their rapid disappearance from the surface of the skin. He promises future reports on further work on this interesting observation. If found to be true, this ability of the larvæ to enter the skin will account for the infection perhaps even more satisfactorily than the explanation heretofore offered; especially in the case of laborers who stand for hours in soft mud. But the course of the larvæ toward the jejunum and the reasons that determine their wandering and their localization here offer many interesting problems for research. Perhaps a similar explanation is applicable to other parasitic invasions not now fully understood.

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[1] American Medicine, June 1, 1901.

[1] Proceedings Phil. Pathological Society, 1901, iv, 179-186.

THE PERSISTENCY OF PLAGUE.

An editorial in the *Journal of Tropical Medicine*[1] summarizes the present status of the plague in terms that are not altogether encouraging. Hong Kong is now passing through the seventh recrudescence, one that promises to be the worst yet experienced. Modern sanitation seems there to have met its match. In spite of specially favorable conditions this British outpost appears to be as vulnerable as any of the adjacent insanitary Chinese towns and villages. "From what is known of plague," the editorial states, "we must expect when once a town is infected, that recurrences are not only possible but that they will continue with an inveterate persistency, rendering the future, from a public health and commercial point of view, gloomy in the extreme." The plague in Capetown is also instanced as affording unpleasant facts. We have come to believe that Asiatics were especially susceptible to the disease and that the white race, with its better modes of living and more sanitary habits, would be almost immune. In Capetown, however, the whites suffer fully as much as the colored races, and it is the Chinese there who are comparatively least affected, and next to them the Malays. Habits no more than race appear there to govern the spread of the infection, and sanitation has thus far done little effective work in checking it. From these and like facts it seems there is little ground for any complacent sitting down and waiting, with the belief that any section is safe. We evidently do not know yet all the resources and methods of the destroyer, and any false sense of security where the pest has apparently disappeared may have most disastrous consequences. It has reappeared in Honolulu notwithstanding the very energetic measures taken against it, and may do so elsewhere where the measures have not only not been so thorough, but have been embarrassed by an ostrich policy of suppression of facts. These are possibilities to be seriously considered, and only eternal vigilance can be regarded in any exposed section as the least price of security.

AN ENCOURAGING OUTLOOK IN MEDICAL LEGISLATION.

Medical practice acts are gradually "going through the mills" of the supreme courts, and are generally coming out all right. One of the most recent decisions is that of the Ohio supreme court refusing a mandamus to compel the State Board of Medical Registration to recognize the diplomas of the Hygiea Medical College, of Cincinnati. The court rejected the plea that the grant of the power to determine what medical colleges were in good standing was unconstitutional, since that point had already been decided by another decision If it were void on this ground, moreover, it would be highly improper for the court to compel the board to exercise it as regards this particular institution. The charge of prejudice does not appear to be sufficient ground for mandamus in this case. The proper scope, the decision says, of a mandamus, against an official board, is to command the performance of acts which the law has specially enjoined upon it as a duty resulting from the office. Unless the duty is so enjoined the remedy is inappropriate. Search of the statutes reveals no provision authorizing the application of a medical institution to be recognized as in good standing or compelling the board to act on it. It is only when a diploma is presented that the action of the board can be invoked. Whether, then, a mandamus would lie on the refusal of the board to grant a certificate, must depend on the facts of each case. Such cases can not be covered by a general order to grant certificates to the graduates of any particular institution, for unless an application is made the duty of the board to grant does not arise. And then the seeking the remedy for a refusal belongs to the applicant as the party directly interested, and not to the college issuing the diploma, whose interest is only remotely affected. The statute does not define what shall constitute a medical institution in good standing; that is left to the judgment of the board. It is unnecessary to inquire here whether there may be cases where the courts would undertake to correct or control its judgment. It is clear that the standing of a medical college within the meaning of the statute is not to be determined alone from the course it has prescribed for graduation. The statute imports, at least, that it shall be one that has established a favorable reputation in the medical profession. The board should not be required to recognize one that, from its brief existence or the novelty of its teaching, in its judgment has not acquired such reputation, and much is necessarily left in this respect to the sound discretion of its members, who, it is assumed, will act as their position requires, fairly and justly to all concerned. This decision, of which the above are the leading points, is a valuable one to our Ohio confrères, as establishing the validity of the law, and also affords a useful precedent for reference in other communities.

The French Government sends every year some young men, natives of Madagascar, to Paris for a two-year course in medicine, after which they return home to practice.

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[1] June 15.

Medical News.

COLORADO.

Dr. Charles Denison, Denver, sails for Europe on the *Campania*, July 13, to attend the British Congress of Tuberculosis.

New Medical Law.—The effect of the new medical law is being felt. On June 16, a "doctor of psychology" was fined $50 and costs for practicing medicine without a license.

The National Hospital for Consumptives, Denver, has received donations of $25,000 from W. Guckenheim's Sons, of New York, and $5000 from S. Grabfelder, of Louisville, to be applied to the building fund.

Tuberculosis in Colorado.—Dr. Henry Sewall, Denver, in a report made to the state medical society, stated that in the sixteen months to May 1, 1901, 1674 deaths from tuberculosis were reported. In 970 cases the disease originated outside of Colorado. In 480 cases, the origin was not given. In 224 cases or 13.32 per cent. the disease originated in Colorado.

The Colorado Maternity and Children's Hospitals, Denver, were opened to inspection a short time ago. The staff of the new institution is as follows: Consultants, maternity staff, Drs. Thomas H. Hawkins, Francis H. McNaught, William P. Munn, William S. Bagot and Charles B. Van Sant; children's staff, Drs. Herbert B. Whitney, Seymour D. Van Meter, Eleanor M. Lawney, Melville Black, N. Harris Kirby and Frank E. Waxham. Visiting Staff, maternity, Drs. Frank W. Kenney, Seymour D. Van Meter and Laura L. Liebhardt; children's, Drs. Frank W. Kenney, F. P. Gengenbach and C. A. Graham.

ILLINOIS.

Dr. E. M. Sutton, Peoria, will spend his vacation in Europe. He will go on the *Umbria*, leaving New York on the 20th.

Dr. Arthur L. Hagler has been appointed on the staff of the St. John's Hospital, Springfield, in the eye and ear department.

Dr. Frederick C. Winslow, has assumed charge of the Asylum for the Incurable Insane at South Bartonville, near Peoria.

Physician Not Horse Doctor.—Judge W. G. Cochran has decided that a surgeon has not the right to practice as a veterinary in a suit brought by Dr. Max W. Barbour, of Arcola, against a race-horse owner for services rendered to one of his horses.

Chicago,

Dr. A. M. Corwin has resigned from the faculty of Rush Medical College.

Dr. Henry H. Mather, while playing golf, sustained a fracture of the right fibula.

Dr. Arthur Reynolds sails from New York, on July 13, for London, to attend the Congress on Tuberculosis.

Dr. Willis O. Nance will leave New York on Saturday, July 20, on the *Umbria*, for a six weeks' European trip.

Drs. Frank Billings and Robert H. Harvey leave this week to spend their vacation at Mackinac Island, Mich.

Travelers.—Drs. J. A. Robison and W. Byron Coakley have joined the army of European travelers and will attend the Tuberculosis Congress in London.

Dr. L. Blake Baldwin, who has been appointed professor of clinical dermatology in the College of Physicians and Surgeons, left July 1, for Paris, where he will spend three months.

The Chicago Lying-In Hospital has received a donation of $5000 from Abram Slimmer, Waverly, Iowa, for the erection of a new dispensary building, contingent on the subscription of $10,000 additional.

The College of Physicians and Surgeons has been formally deeded the West Division High School property, by the City of Chicago, the consideration being $186,000. About $40,000 will be expended on the building belonging to the college recently burned.

Northwestern University Medical School.—N. S. Davis, Jr., has been elected dean, and Arthur R. Edwards, secretary, of the faculty. Wesley Hospital, in close connection with the college, has been informally opened to the profession, and after complete equipment the formal opening will take place. The Hospital will accommodate 300 patients. Plans are completed and the money is raised for a $22,000 amphitheater and operating rooms at Mercy Hospital, with a seating capacity of 400. Drs. C. L. Mix and P. T. Burns have been appointed assistant professors of anatomy.

Changes in Medical Department of the National Guard.—The resignations of Major G. Frank Lydston, surgeon, and Lieutenant Elihu N. Elliott, assistant surgeon, assigned to Second Infantry, and of Lieutenant Norval H. Pierce, passed assistant surgeon, first ship's crew, Naval Militia, have been accepted. Dr. Buell S. Rogers has been commissioned major and surgeon, Dr. B. McPherson Linwell, captain and assistant surgeon, and Drs. Frank Webster Jay and F. Gregory Connell have been commissioned first lieutenants and assistant surgeons, and assigned to the Second Infantry.

Mortality and Morbidity.—Notwithstanding the high temperature of the past fortnight the mortality rate has not been materially increased. There were but 17 more deaths last week—and of these 7 were from sunstroke—than during the previous week, while the total was 20 fewer than in the corresponding week of 1900. Only the continued malignant character of the widespread epidemic of measles gives the Department any concern. There were 13 deaths recorded from this disease last week and the type of the malady shows no change. The Department repeats its warning to parents against exposing non-immune children to the contagion and again insists upon the necessity of strict isolation of all measles patients. The disease is especially prevalent and severe in the 27th Ward.

Increase of Suicides.—The recent enormous increase of suicides in this city has led the Commissioner of Health to request the Coroner to make special inquiry into the history of these cases with reference to the relation of influenza. In the following note to that official it is pointed out that "In the five years, 1871-1875, the suicides in Chicago were 12.6 per 100,000 of population. In the last lustrum, 1896-1900, there were 23.0 per 100,000. The increase—which has been quite general in all civilized countries during the past half-century—was very gradual in Chicago until about 1893, when they suddenly increased from 18.7 in 1890 to 23.8 per 100,000. Grip or influenza has been more or less prevalent in this city since the fall of 1889 and was especially prevalent in 1891. It is claimed that this disease profoundly affects the nervous system, causing all grades of mental disturbances, from simple melancholia to acute insanity. It is quite possible that the great increase in the number of suicides in 1893 was due to this effect of the grip epidemic of 1891 and that the general increase during the whole period, 1890-1900 is due to the same disease. What I wish you would do for me is to cause inquiry to be made in every case whether the suicide had ever had an attack of grip or influenza; if so, in what year; and had the fact ever been the subject of comment by the suicide or the family or associates. Please have these data noted on the Coroner's certificate so that I may have them properly compiled."

No Private Hospitals in Chicago.—The London *Lancet*, June 22, prints the following paragraph from its New York correspondent: "Novel Sanatorium in Chicago.—A sanatorium is about to be constructed in Chicago upon a wholly new principle. The medical men in that go-ahead city have for some time been dissatisfied with the means of accommodation which Chicago offers to patients from a distance who are desirous of placing themselves under the charge of practitioners there. There are many objections both on the part of physicians and patients to the large general hospitals and it seems that there are no private hospitals in Chicago. In consequence of this condition of affairs those who wish to be treated in the city are compelled to betake themselves to large hotels or to apartments. The big hotels are too noisy and apartments have, as a rule, some drawbacks. Besides, friends or relatives of the sick have not always been able to secure quarters near the sick bed. To remedy this unfortunate situation five physicians and surgeons of Chicago are preparing to build a large private hotel and sanatorium to cost $400,000 (£80,000). This combination of hotel and sanatorium is, it may be imagined, the first time that such a plan has been put into execution, and it is yet another tribute to the practical versatility of the Western American's brain." It will be news to the Chicago profession that there are no private hospitals in this city, or that it is necessary for patients to betake themselves to hotels when they come for treatment.

INDIANA.

W. T. Davis, Ehrmandale, has been fined $20 and costs for practicing medicine without a state license.

The President of the Red Cross Medical Society, Indianapolis, has been fined $25 and costs for practicing medicine without a license.

The W. B. Fletcher Sanatorium has been incorporated at Indianapolis with a capital stock of $50,000 by Drs. William B. Fletcher, Mary A. Spink, Urbana Spink and others.

Mears Memorial Library.—Dr. J. Ewing Mears, Philadelphia, proposes to establish a medical library and to found a home for the Marion County Medical Society in memory of his father, the late Dr. George W. Mears, who was a pioneer physician of Indianapolis.

New Military Surgeons.—Drs. W. Ruston Davidson, Evansville; Paul J. Barcus, Crawfordsville, and Jacob M. Hill, South Bend, have passed their examinations and been recommended for commissions as assistant surgeons in the First, Second and Third Infantry, respectively.

The physicians and surgeons of Anderson, owing to the numerous suits for alleged malpractice, have agreed to refuse all service in surgical cases unless the patient or his family signs an agreement releasing the surgeon from liability in the event of any unsatisfactory results.

KENTUCKY.

Kentucky School of Medicine, Louisville, held its annual commencement exercises, June 26, graduating a class of forty-three.

Hospital College of Medicine, Louisville, held its annual commencement, June 27, graduating a class of fifty-seven. Dr. Lewis S. McMurtry, president of the college, delivered the doctorate address.

Kentucky University Medical Department, Louisville, held its annual commencement exercises, June 25, graduating a class of nineteen. The address to the graduating class was made by Rev. George B. Eager, D.D.

Dr. W. E. Clark, who was convicted of manslaughter in January last, has been granted a new trial by the appellate court, June 22, because of the admission of certain evidence, the failure to admit evidence of defendant, and the instructions of the court.

MAINE.

The State Board of Health, at its annual meeting, re-elected Dr. Charles D. Smith, Portland, president.

Smallpox is prevalent in Bangor. Public vaccination has been ordered and strict quarantine is being enforced. Bangor has 8 cases of the disease, Milo 5 cases, Portland 1 case, and Lagrange and Dexter each 2 cases.

The Medical School of Maine, Brunswick, held its annual commencement, June 27. This was the last class to graduate under the three year rule. A class of thirty-nine received diplomas, and the doctorate address was delivered by Hon. Augustus F. Moulton, Portland.

Anatomical Material.—An act has been passed by the legislature requiring all public offices having charge or control over dead human bodies to notify immediately the Board of Distribution whenever unclaimed bodies come into their control, that the said board may take and remove such bodies to be used within the state for the advancement of medical education.

A "magnetic healer," of Portland, who had been notified by the secretary of the State Board of Medical Registration not to practice medicine without examination and registration and who nevertheless persisted, was indicted, tried and found guilty. The accused used the letters "S. R. S." after his name in his advertisements, and on being asked their significance, stated that they meant "*Silent Rubbing Specialist.*"

MARYLAND.

Baltimore.

Dr. Robert Hoffman sailed for Europe July 4.

Dr. Frederick Taylor has sailed for England.

Dr. Marie E. Thalwitzer has sailed for Europe.

Dr. James M. Crayhill will sail for England July 20.

Dr. Daniel Z. Dunnott will spend the summer at Plinhimmon, Ocean City, Md.

Dr. Harry Friedenwald left with his family, on July 4, to spend the summer in Europe.

Dr. John Ruhrah, who has been studying in the hospitals of Berlin, Vienna and Paris, is now in London. He will return to Baltimore, September 1.

Memorial to Dr. Jesse W. Lazear.—Those who were associated with the late Dr. Jesse W. Lazear at Johns Hopkins Hospital, are planning a suitable memorial of his life and services.

Mr. J. W. Middendorf has contributed $10,000 to the Charlotte Williams Hospital, of Richmond, Va. The institution is a memorial to a deceased daughter of Mr. John L. Williams, of the latter place.

Mosquito Extermination.—A company has been organized here to fight the mosquitoes. It is called the New Jersey Mosquito Exterminating Company. A small stipend will be charged for which the company undertakes to rid one's premises of the pest for the season.

The mortality of this city for the week ending July 6 was 451, the largest since records of deaths began to be made. This is the more remarkable because but two weeks before the mortality had been the smallest ever known. The intense heat lasting throughout the week, and on two days reaching 103 F., is accountable for this large figure. There were 78 deaths from sunstroke, 234 were under 5 years, and 89 over 60 years of age.

Dr. Howard A. Kelly and family are at the Colonial, Ocean City, Md.; Dr. Powhattan Clarke is at Chester, Nova Scotia; Dr. C. C. Bombaugh and family are spending the summer at Niagara-on-the-Lake, Ontario; Dr. H. C. McSherry is at Blue Ridge, Summit, Pa.; Dr. W. W. Russell is at Marine Villa, Cape May, N. J.; Dr. Alan W. Smith and wife are at Rehoboth Beach, Del.; and Dr. Henry Lee Smith is at the Blue Mountain House for the summer.

Fraud at Examination.—A case of fraud was attempted at the recent examinations before the Maryland State Board of Medical Examiners. A young physician, said to be a Philadelphian and graduate of the University of Pennsylvania, applied to the board for examination, giving the name of another physician, graduate of one the Baltimore schools, now practicing in New Jersey. The scheme was discovered and a detective put on the case. The only motive found was the alleged fact that one holding the Maryland certificate can get a New Jersey certificate without further trouble. The candidate was refused the Maryland certificate, though he received a high average.

Tablet to Dr. Jesse William Lazear.—At Trinity Hall Military School, Washington, Pa., on commencement day, June 18, a tablet to the memory of Dr. Jesse William Lazear, of Baltimore, was unveiled with appropriate ceremonies. It is inscribed as follows: "In memory of the virtue and self-sacrifice of Jesse William Lazear, M.D., of Baltimore, Md. Born May 20, 1866. Died Sept. 25, 1900. Prepared for college at Trinity Hall, 1880-4. Graduated at Johns Hopkins University, medical degree from Columbia University, Instructor at Johns Hopkins University, Assistant Surgeon United States Army. Died while investigating causes of yellow fever in Cuba. He gave his life to his country for the advancement of science. *Pro Deo et Patria.*"

MASSACHUSETTS.

Tuft's College Medical School held its annual commencement June 19, graduating a class of thirty-four.

Doctors Have Smallpox.—Dr. Charles B. Stevens and Dr. Campbell, of the staff of the Worcester City Hospital, and one of the nurses are ill with smallpox.

The Wage Earners' Hospital is to remove to Harvard and Albany Streets, Boston. Drs. George Van B. Buehler, Charles L. Ogden and Clarence M. Casselberry constitute the staff of the new hospital.

Franklin Hospital, Boston, was opened June 6. It has a capacity of about sixty beds, and is so arranged that patients can be cared for by their own physicians. Dr. R. Sherman York is in charge of the hospital.

Frost Hospital, Chelsea, held its annual meeting, June 21. Dr. Frederick S. Raddin was elected a member and secretary of the Medical Board. Dr. Charles H. Shackford was re-elected chairman of the board; Dr. Joseph B. Fenwick was elected admitting physician.

NEBRASKA.

Dr. John P. Lord, Omaha, has returned from a nine-months' tour of Europe.

Dr. Minerva M. Newbecker has resigned as assistant superintendent of the Hospital for the Insane at Lincoln. Her successor has not yet been appointed.

New Asylum Physicians.—Dr. William L. Carlyle, Hebron, has been appointed assistant physician of the Hospital for the Chronic Insane at Hastings, vice Dr. Woodward, resigned; and Dr. Alma J. Chapman, Hastings, succeeds Dr. Ewing, resigned.

Nebraska Anatomical Society.—By an act of the legislature, the Nebraska Anatomical Society has been formed in

Omaha, and will be given possession of all unclaimed pauper bodies in the state for distributon to medical colleges. The unclaimed bodies annually range from 300 to 500.

NEW MEXICO.

State Board of Health.—At a regular semi-annual meeting of the New Mexico Board of Health, held at Santa Fe, June 3, Dr. George C. Bryan, Alamagordo, was elected president, and Dr. Walter G. Hope, Albuquerque, secretary.

Consumptives Improve.—The Government Hospital for Consumptives at Fort Bayard reports 149 patients undergoing treatment, many of whom have so improved as to be able to return to duty. A majority of the patients show marked improvement.

Medical Examiners for School Teachers.—The president of the territorial board of health has appointed twenty-two physicians to examine school-teachers in accordance with the new law which provides that no one suffering from tuberculosis shall be allowed to teach school.

NEW YORK.

Jamaica Hospital.—At the annual meeting of the medical staff of this hospital, Dr. Philip M. Wood was elected president; Dr. Henri M. Auger, vice-president, and Dr. Austin J. Blanchard, secretary. Drs. Samuel D. Nutt, of Ozone Park, and William T. Scovil, of Richmond Hill, were added to the medical staff.

Census of Consumptives.—A census of the consumptives in the state is to be taken by Dr. Daniel R. Lewis, President of the State Board of Health. This census is only for the purpose of learning the number of consumptives in the state as far as possible, and the revealing of other facts relating to the disease, of importance to the profession.

Health Report.—There were 10,327 deaths in New York state during May, or 500 above the average for that month during the preceding years, according to the monthly report of the State Board of Health issued July 3. Smallpox has been reported during the month from 24 different points and in all there have been noted 32 new cases within the past month.

The Albany Medical College has made several changes in its faculty. Dr. Howard Van Rensselaer will have charge of the departments of materia medica and therapeutics, and the practice of medicine. Dr. Leo H. Neuman has been appointed clinical professor of the practice of medicine and Dr. J. Montgomery Mosher is now clinical professor of neurology and electro-therapeutics. As lecturers, Drs. Arthur T. Laird, on clinical microscopy, George E. Lochner, on gynecology, and Chas. H. Richardson, on surgery, were appointed.

Buffalo.

The Exposition Hospital has already treated 1600 cases.

Dr. Augustus Pohlman, instructor in anatomy at Cornell University, Ithaca, has gone to Freiburg, Germany, for special study in anatomy.

Buffalo Academy of Medicine.—The medical section, at a recent meeting, elected Dr. Harvey R. Gaylord chairman, and Dr. Harry Rooth secretary.

The United States Hospital Corps Camp at the Pan-American Exposition will prove of especial interest to physicians interested in seeing a model sanitary field hospital. There is a tropical, a summer and a winter ward.

The Buffalo Fresh-Air Mission has opened its hospital at Athol Springs for the summer season. At this hospital a large number of infants suffering from non-communicable disease and belonging to poor parents, are treated every summer and many are restored to health.

University of Buffalo.—The faculty and alumni association of the medical department of this University have established a Pan-American bureau of information for the exclusive benefit of the alumni who are to visit the Pan-American. The bureau has been opened in the library of the University at 24 High Street, near Main.

New York City.

Dr. Louis Fischer sailed for Europe on *La Bretaque*, June 27.

Dr. S. A. Knopf sailed for London July 10, to attend the British Congress on Tuberculosis.

Dr. Charles K. Briddon recently completed his twenty-fifth year as attending surgeon to the Presbyterian Hospital.

The Floating Hospital Services for the children of the poor has been begun for the summer season by St. John's Guild.

The Emergency Hospital connected with the Department of Charities, at Coney Island, is completely fitted up and has an ambulance service.

Five Brooklyn Physicians, who have been sued by a debt-collecting agency, declare that they signed the contract, under the terms of which they have been sued, under a misapprehension, and that the conditions of the contract are practically impossible of fulfillment.

Claim for Expert Services Allowed.—The claim of Dr. Jackson R. Campbell, Tombs physician, for $2250 on account of services as expert medical examiner, which was disallowed by Comptroller Coler, and was referred to the corporation counsel, has been ordered paid.

In the case of Herbert C. Wadman, a patient, who died at Manhattan State Hospital, the coroner's jury rendered a verdict that Wadman came to his death from chronic nephritis and acute mania, aggravated and hastened by broken ribs and injuries to the chest and head. The jury censured the management of the Manhattan State Hospital, exonerating the Bellevue Hospital authorities, and found that the injuries were inflicted by Attendant John Foley, and that keeper Michael Carroll was an accessory.

OHIO.

Dr. and Mrs. John Edwin Brown, Columbus, sailed for Antwerp on the *Vaderland*, June 26.

Mr. H. M. Hanna, Cleveland, has endowed a chair in the Medical School of Western Reserve University.

Dr. Reginald B. Leister has resigned from the staff of the Toledo State Hospital and will practice in Toledo.

Dr. J. M. Crawford, ex-minister to Russia, has been created Doctor of Laws by the Ohio University at Athens.

B. S. Slocum, a negro, was arrested on June 24 at Amanda, Fairfield County, charged with the illegal practice of medicine.

Dr. Fred L. Wilson, of the Athens State Hospital for the Insane, has resigned and will resume practice at Washington Court House.

New Laboratory.—The Laboratory of Clinical Microscopy, Medicine and Surgery, donated by John H. Brown, of Cleveland, in memory of his brother, and by Samuel Mater, to the Medical Department of Western Reserve University, Cleveland, who dedicated with appropriate ceremonies, June 12. Dr. Herbert L. Burrell, of Harvard Medical School, delivered the principal address.

Osteopathy.—A motion to advance the case of the State of Ohio vs. Gravitt was granted by the Supreme Court of Ohio last week. This case involves the question of the practice of osteopathy under the provisions of the law which took effect on July 1, 1900, and the granting of the motion insures a speedy hearing and decision of the case.

PENNSYLVANIA.

The estate of the late Dr. William H. Daly, Pittsburg, is estimated to be worth $250,000.

Rev. William A. Passavant, of Pittsburg, widely known as a philanthropist, and a worthy successor of his father in the establishment of hospitals in various cities of the country, died suddenly at Jummonville, July 1, from apoplexy.

Appropriations.—The following appropriations were passed by the Legislature, June 25: Free Hospital for Poor Consumptives, $110,000; Taylor Hospital, Lackawanna County, $15,000; Medical Department of Western Pennsylvania Hospital, Pittsburg, $100,000; Titusville Hospital, $10,000; St. Joseph's Hospital, Scranton, $1000, and Nason Hospital, Roaring Springs, $5000.

Philadelphia.

Dr. Thomas R. Neilson has been elected assistant clinical professor of genito-urinary diseases at the University of Pennsylvania.

The State Board of Medical Examiners held an examination June 18 to 22. Three hundred and thirty candidates for certificates to practice medicine were examined.

Appropriations.—The legislature has made the following appropriations to Philadelphia medical institutions: Medico-Chirurgical Hospital, $190,000; Jewish Hospital, $10,000; St. Joseph's Hospital, $10,000; University of Pennsylvania, $25,000, and University of Pennsylvania Hospital, $58,000.

Prof. W. W. Keen, of Jefferson Medical College, has been granted two years' leave of absence and Prof. J. Chalmers DaCosta will do his work, together with his own, both in the college and in the hospital. This additional work necessitates Dr. DaCosta's resignation from his position on the surgical staff of St. Joseph's Hospital, and Dr. Charles F. Nassau has been appointed to fill the vacancy.

VIRGINIA.

Old Dominion Hospital.—Ground was broken for the new Old Dominion Hospital, Richmond, June 22.

Dr. Samuel A. Hinton, Petersburg, has been appointed city physician, vice Dr. Hugh Stockdell, deceased.

The Isle of Wight County Board of Health has been organized with Charles H. Hart, Suffolk, president; Dr. Leslie C. Brock, Smithfield, secretary.

Winchester Memorial Hospital.—Mrs. Lewis H. Hyde, of New York, has contributed $5000 toward the building fund of this hospital. Of the $15,000 required, $7000 has now been raised.

WISCONSIN.

The New Norwegian Luthern Hospital at La Crosse was wrecked during a tornado, June 28.

Dr. Horace M. Brown, Milwaukee, has sailed for London, where he will attend the British Congress on Tuberculosis.

The Alumni Association of Milwaukee Medical College has been incorporated by Drs. Lawrence Hopkinson, Ernst J. Panetti and Eugene D. Regan.

GENERAL.

Health Board and Laboratory for Manila.—The Philippine Commission has passed bills establishing a Government biological and chemical laboratory. A Board of Health, consisting of commissioner, sanitary engineer, chief inspector, laboratory superintendent and secretary, has been formed. Stations for the supply of vaccine virus will be established wherever necessary in the provinces.

War on Mosquitoes.—The Marine-Hospital Service has instructed its medical officers to aid in the extermination of mosquitoes and fleas, and to take every precaution possible to keep the pests from the hospitals and quarantine stations. It is required that all pools of water near stations of the service be covered with petroleum. Patients with infectious diseases must be protected by wire netting. The army quartermasters also have arranged for a supply of kerosene, which is to be used on all stagnant water within the confines of military posts.

Dr. S. Weir Mitchell, who, as we announced last week, has just returned from a trip around the world. Evidently the Doctor has the reputation of being a worker, for a newspaper asserts that six long novels, forty-nine sonnets, 103 quatrains and several other poems, not to mention four books of sketches, a treatise on nervous diseases, fifteen or twenty short stories, were dashed off by him at odd moments during his trip. All these precious works, we are informed, are now in the possession of Richard Watson Gilder, who has hired eight detectives to watch the stuff.

A New Journal.—The first issue (June) of a new psychiatric journal, *The Journal of Mental Pathology*, has been received. It is published in New York under the editorial management of Dr. Louise G. Roubinovitch, with Drs. Magnan, Joffrey, Raymond, Regis and Morell abroad, and Drs. Mills and Hughes, of this country, as editorial collaborators, and a very extensive staff of contributors from all parts of the world. The initial number contains articles by Drs. Marie, of Paris; Ferrari, of Italy; E. A. Spitzka, of New York, and the editor, with selections, editorials and book notices; it presents a very creditable appearance. From the reputations of the collaborators and contributing staff, we shall look for high-class work in the articles appearing in this new journal; the character of those in the present issue promises well for the future.

CANADA.

A death from tetanus following vaccination is reported from Brantford, Ont.

Charity Bequests.—By the will of the late Senator Villeneuve, Laval University gets $25,000, Notre Dame Hospital, Montreal, $5000, and the Catholic Orphan Asylum, $5000.

Dr. A. T. Stanton, late of the house staff of the Toronto General Hospital, has been appointed surgeon of the C. P. R. steamer *Empress of China* of the Pacific fleet. Dr. Stanton left last week for the Pacific Coast.

Militia Dental Corps.—At the annual meeting of the Eastern Ontario Dental Association held in Ottawa, on July 4, a resolution was passed requesting Dr. Borden, minister of militia, to take steps to have a dental corps appointed in connection with the Canadian Militia.

Montreal is once more free of smallpox; quarantine was raised on the last house last week, and there are now no houses quarantined in that city. There are only three or four patients at the smallpox hospital, and it is expected they will be released in the course of a few days.

Dr. Montizambert, Director-General of Public Health, and Dr. McEachren, chief veterinary inspector for the Dominion, have been delegated by the Canadian government to attend the conference to be held in London, on July 22, to consider the question of prevention and cure of tuberculosis.

The Royal College of Dental Surgeons assembled in convention in Toronto last week, there being a large attendance of outside members. Dr. Walter Willmott, of Toronto, addressed the convention on the use of the *x*-ray in dentistry, and showed the importance the rays were in the profession of dentistry.

Montreal General Hospital.—During the month of June there were 262 admissions to this hospital, 256 discharges and 15 deaths. The average number of patients daily in residence was 167. The average of typhoid fever cases was 15. During the hot spell there was a large number of cases of sunstroke and heat prostration, but there was only one death from this cause. There is at present a great demand for trained nurses in Montreal, and the Training School is constantly besieged with enquiries. The graduates of this institution now number 180.

Cottage Hospital Scheme.—The idea of special collecting cards in connection with the Cottage Hospital scheme has proved very successful, and Lady Minto is pleased with the results so far. Nearly $20,000 has reached her excellency in this way from various parts of the country, and the countess is especially delighted with the work of the ladies of Montreal. In London, Ont., the scheme of collecting has been taken up by a special committee, and there excellent progress has been made. A rather curious circumstance is that the responses from Winnipeg are almost nil. Throughout the West around Regina and Saskatchewan, the scheme is being taken up with interest, and even from far-off Yukon subscriptions are coming in.

FOREIGN.

The Berlin University is planning an institute for radiotherapy. Professor E. Lesser is to be placed in charge.

The Plague at Rio Janeiro.—The four cases of bubonic plague recently found in Rio Janeiro were all brought from Oporto, Portugal.

The Plague at Capetown.—The total number of plague cases up to July 7 has been 760. The deaths have numbered 361, including 65 Europeans.

Glasgow University Honors Germans.—The University of Glasgow, on the occasion of its 450th anniversary, conferred honorary degrees on Quincke, Mikulicz and Kronecker, of Germany.

Reorganization of Turkish Medical Colleges.—Professor Rieder, of Bonn, and Dr. Deycke, of Hamburg, have been reorganizing the medical schools in the Turkish empire, at the request of the sultan. Rieder has been appointed general inspector of medical education.

Professor von Leyden's Jubilee.—The twenty-fifth anniversary of Professor Leyden's incumbency of the chair of medicine at Berlin was celebrated with much ceremony, June 8, by his friends and pupils. He was the successor of his master, L. Traube, and has worthily sustained the traditions connected with the chair.

Memorial to Pettenkofer.—Munich is planning a statue of Max von Pettenkofer, and also the erection of a Pettenkofer building, to contain a museum of articles connected with Pettenkofer's life and services to hygiene and sanitation, and also rooms for meetings of medical and other scientific societies, and a library. The committee that has the matter in charge is formed of the municipal authorities and chiefs of the Institute of Hygiene, etc.

Honors to the Memory of Physicians.—A portrait bust of Theodor Meynert was unveiled at the Vienna University, May 19, nine years after his death. The memorial was erected by the government in honor of Meynert's discoveries and achievements in psychiatry. Berne is preparing to honor in the same way the memory of A. von Heller, the famous scientist and physician of the eighteenth century, who, as simultaneous professor of surgery, anatomy and botany, conferred such luster on the University of Goettingen.

The Virchow Fund.—The amount raised for this fund was 78,000 marks when it was first presented to Virchow in 1881, on his sixtieth birthday. According to his wish it is devoted to anthropologic, ethnologic and prehistoric research. Six scientific expeditions have received appropriations from the fund and their discoveries have been duly published and illustrated in the Transactions of the Berlin Anthropological Society. The excavations were in the Caucasus, Malacca and in Cyprus. The expenses of Cetti's fasting test under the supervision of Senator, Zuntz and Munk were also defrayed from the fund, and the important scientific researches of Stuhlmann, Mies and Meslort on prehistoric biology, etc., published. The fund has been increased by various gifts until it is now 137,000 marks. The committee in charge are anxious to have it reach 200,000 marks, or about $80,000, by October 13, Virchow's eightieth birthday, as mentioned in the appeal published last week, p. 40. We learn from our exchanges that, during a recent windstorm, he was hurled against a tree and severely bruised in the forehead.

LONDON LETTER.

The Tuberculosis Congress.

The arrangements for the forthcoming Congress on Tuberculosis are almost complete and the meeting promises to be a very successful and important one. Over 1,200 applications for membership have been received and the number is expected to exceed 2,000. On Monday, July 22, at 3 p. m., at St. James' Hall, the Congress will be opened by H. R. H. the Duke of Cambridge at the request of the King. His Majesty has taken a great interest in the tuberculosis question and, indeed, in sanitary questions in general. When he was Prince of Wales he presided over the Society for the Prevention of Tuberculosis and it was arranged that he should preside at the opening of the Congress, but his accession to the throne has caused him to cancel the arrangement and to appoint his grand-uncle in his stead. Abroad, measures have been taken to secure a large number of foreign visitors. A German committee has been formed under the presidency of the Duke of Ratibor, and a French committee under Professor Brouardel. Amongst those enrolled are Prince d'Arenberg, Profs. Lannelongue, Proust and Nocard. Professor Calleja, president of the next International Congress in Madrid, is promoting the interests of the Congress in Spain. Profs. von Schrötter and Weichselbaum will represent Austria. Among American representatives are Profs. Osler and Janeway. Numerous adhesions have been received from Italy, Hungary, Belgium, Norway and Sweden, Holland, Switzerland, and Portugal. A reception will be held at 9 p. m., on the opening day at the Queen's Hall by the president of the Council and the executive officers of the Congress. On July 23, at 3 p. m., the second general meeting will be held at St. James' Hall, when an address will be delivered by Koch, Lord Lister in the chair. Koch will deal with the question: "Whether what has been done and what is likely to be done for the prevention of tuberculosis corresponds to the etiological conditions of the disease and how far changes with view to more thorough treatment should be instituted." Professor Brouardel will deliver an address on July 24. Receptions, garden parties, river parties, etc., will be held in connection with the Congress, which promises to be as successful from the social as the scientific standpoint. Arrangements will also be made for visits to Sanatoria and other places of interest.

Departure of the Fifth Malaria Expedition From the Liverpool School of Tropical Medicine.

The extraordinary enterprise of this recently established school is shown by the organization of five malarial expeditions. Major Ross, whose name has been rendered famous by the proof of the mosquito theory of malaria, and Dr. Turner, assistant lecturer in pathology at the University of Glasgow, have been sent out to West Africa in order to attempt the extermination of the anopheles mosquito. It is thought that the Colonial Office will send a representative to assist in the work. Mr. Chamberlain has sent a message wishing the expedition every success and intimating that he has instructed the Governor of Sierra Leone and other officials to give the expedition every assistance in their power.

Army Medical Reform.

A committee of experts has been appointed to consider a scheme of reform drawn up by the Secretary for War. It consists of the following members: Howard H. Tooth, M.D., F.R.C.P., representing St. Bartholomew's Hospital; G. H. Makins, F.R.C.S., St. Thomas's Hospital; Alfred D. Fripp, Guy's Hospital; Sir F. Treves, London Hospital; Alexander Ogston, Scotland; Lieutenant Colonel Keogh, Ireland; E. E. Perry, M.D., F.R.C.P., Senate of London University; Surgeon-General Hope, President of the Medical Board, India Office. Most of the civil practitioners have served in the South African war and therefore are peculiarly fitted for the task of remedying the defects of the army medical system.

Suicide of a Surgeon.

Considerable sensation has been produced in medical circles by the suicide of Mr. Thomas Bond, the well-known medical jurist who figured in almost every *cause celebre* in which medico-legal questions arose. He had been suffering from cancer of the prostate, which caused great pain. He took considerable morphia and was heard to say: "I am sure I shall jump out of the window or blow my brains out." Generally speaking, he was a strong-minded and courageous man. During the absence of his nurse he threw himself out of the window and fell on his head a distance of 50 feet. In 1873 he was appointed assistant surgeon to the Westminister Hospital, but it was as an expert in criminal cases, such as the trials for murder of Kate Webster, Lamson, Lefroy, and Mrs. Pearcey, that his reputation lay. He had extraordinary experiences of railway accidents, and companies often resorted to his services to protect themselves against the claims of malingerers. He was one of the best of medical witnesses. His evidence was clear and carried conviction, and having formed an opinion he adhered to it with a tenacity which no cross-examination could shake.

Report of the Committee of Inquiry of the National Hospital for the Paralyzed and Epileptic.

The circumstances leading to the appointment of this committee have been previously described in THE JOURNAL. The report which is unanimous has been presented to the governors. The witnesses heard comprised experts in hospital management, Lord Lister, Sir Wm. Broadbent, Sir Sidney Waterlow and Mr. C. S. Loch; members of the board of management; medical officers of the hospital; present and past house physicians; present and past matrons and nurses; the Secretary-Director and other officials. Of the allegations made by the medical staff the committee find that some of the most important are true; some have foundation in fact, but are exaggerated, and that others are not supported by sufficient evidence. With regard to the question of diet they find that at the beginning of last year the supplies to particular wards fell short more often than ought to have occurred. The quality of the meat, fish, eggs, and vegetables was often far from good. In a few cases the personal cleanliness of the patients did not receive sufficient care. In some wards the supply of linen was deficient. The supply of draw-sheets, which from the character of the diseases treated in the hospital are required in large quantity, was very deficient. The method of communication between the medical staff and the Board—through the Secretary-Director—has not worked well and the committee are of opinion that the direct representation of the staff on the Board would be of great and permanent benefit to the hospital and would have presented the present schism. The allegation of the Board that such representation would tend to destroy the religious and philanthropic character of the hospital, is dismissed as unfounded. The committee therefore recommend that the Board be increased by two members chosen by the medical committee from the medical staff. This change would tend to bring the hospital into line with similar institutions. The committee disapprove of the investiture of the Secretary-Director with so much power, and find that he has not used it with tact and judgment, but has exceeded his functions. They recommend the abolition of this office and the appointment of a secretary entrusted with ordinary powers who should be the chief and executive officer of the Board of Management, but be restrained from interfering with the lady superintendent or the medical staff, or that a secretary and medical superintendent should be appointed as a permanent officer, who should not only discharge the duties of secretary and house physician, but should be the responsible and resident head of the whole institution under the Board of Management. So far the prolonged and stubborn contest, which threatened to wreck one of the most useful charities in this country and one of the most famous hospitals in the world, has ended in the complete victory and vindication of the medical staff. The Secretary-Director, an able and energetic official, who has served the hospital more than thirty years, had gradually been allowed to take almost all the powers of the governing body into his own hands, and in the end attempted to over-rule the medical staff on such purely medical questions as nursing and diet. The attempt has ended as it deserved.

PARIS LETTER.

Cytodiagnosis in Inflammatory Diseases of the Nervous System.

Cytodiagnosis as a means of distinguishing certain forms of mental diseases, accompanied by inflammation from others which are neuroses, has been studied recently by Dr. Seglas and Nageotte. In 14 cases of mental disease simulating progressive general paralysis, lymphocytosis was found in 5 cases which proved to be paresis, whereas in the other 9 cases, this symptom did not exist. Dr. Joffroy, the neurologist, remarked that it was quite noticeable before the other symptoms of paresis. Drs. Dupré and Devaux communicated at the same meeting of the Medical Society eight observations of patients on whom lumbar puncture was performed. In two cases of progressive general paralysis, leucocytosis was very apparent, as indicated by Widal and his pupils. The six other cases were: One senile dementia, one organic dementia, one precocious dementia, and three cases of delirious melancholia. There was *no leucocytosis in these cases.* Dr. Widal recommended not drawing off more than 3, 4, 5, or, at the most, 6 cubic centimeters of liquid. The patients should remain in bed the rest of the day, and not raise their head from the pillow. Very fine needles should also be employed, as there is less risk of tearing the meninges.

The Use of Large Doses of Antitoxin.

Dr. Widal spoke of the method he followed out in the treatment of diphtheria. He has often seen patients come into the Maison Municipale de Sante, a species of private hospital, at the fifth or even seventh day of an attack, without having been injected. In such cases he gives doses of 60, 80, or even 100 grams of serum, and he has never seen any accidents due to the use of such large doses. In such cases paralysis may supervene, and even sudden death. It should be remembered that the serum treatment can not act when cellular lesions are already produced, and Dr. Widal therefore prefers injecting serum to a patient who does not need it than waiting too long in other cases.

Mortality of Infants in France.

Professor Budin, who has succeeded to Tarnier as professor of clinical obstetrics, made a report recently to the Academy of Medicine on the mortality of children after birth in France. According to some statistics published recently, out of 1000 deaths, there are about 167 of children less than a year old. At Lille the number is 274, 342 at Dunkerque, 414 at Nancy. This excessive mortality is due to the prevalence of gastroenteritis, which causes 385 deaths out of 2000; respiratory troubles, which bring about 147 deaths; congenital debility produces 171 cases; tuberculosis 25; contagious diseases, 50: and all other causes, 222. Professor Budin showed how these different diseases could be fought in a measure, and gave a description of various institutions not only in Paris, but at Florence, Brussels, and Montreal, where advice was given to mothers and sterilized milk was furnished. According to Drs. Balestre and Giletta, 76 per cent. of the deaths occurring during the first year could be prevented. Professor Fournier reminded the assembly that syphilis was a potent factor in the death-rate of children, half, if not more of the deaths occurring in families suffering from syphilis, being due to this disease.

Epidemic of Lockjaw.

At a meeting held by the Society of Surgery, on June 5, Dr. Reynier, surgeon of the Lariboisière Hospital, spoke of three cases of lockjaw which had been seen in his service. Six years had elapsed without his having observed a single case, when in January last he saw symptoms of it in a boy he had operated for hernia. The patient died, and four days after a woman in another ward showed signs of this disease and died the eighth day. A patient who was operated at about the same time was injected with antitoxic serum. Eight days afterwards lockjaw made its appearance, but on increasing the dose of chloral from 12 to 20 grams, the symptoms grew less alarming, and the patient recovered after three weeks. Dr. Reynier thought that it might be the catgut which had been the cause of the infection. Dr. Quénu said that he had never seen a single case of lockjaw cause an epidemic of this disease, and as for the catgut, it could be easily sterilized in alcohol at a temperature of 120° C. Dr. Delbet remarked that he remembered the case of a patient who had a mild form of lockjaw, and who was treated by injections. He rapidly grew worse and died the next day. Dr. Brun described a similar case in a child three years old. On the other hand, Dr. Bazy said that he always had injections made to patients who had bad wounds received in the street and he had only seen so far two cases of lockjaw with men who had not received this treatment. He always gave chloral in large doses in such cases.

Oxygen as a Treatment for Boils and Carbuncles.

A new treatment against boils and carbuncles has been advocated recently by Dr. Thiriar, professor of clinical surgery at Brussels. It consists in the injection of oxygen into the tumor formed by the boil. A receptacle containing oxygen under pressure may be used, and put in communication with a needle, which is inserted under the skin. One injection is found sufficient for an ordinary boil; for a carbuncle it is well to inject oxygen through the different openings. The anthrax becomes painless in a relatively short space of time, and the inflammation disappears in a few days.

Book Notices.

A Text-Book of Gynecology. Edited by Charles A. L. Reed, A.M., M.D., President of the American Medical Association (1900-1901.) Illustrated by R. J. Hopkins. Cloth. Pp. 900. Price, $5.00. New York: D. Appleton & Co. 1901.

This is a composite book—a book with many authors. It is the kind that the average book agent will insist is, and must be, good because so many good men have contributed to it. The reviewer believes that, as a rule, the opposite is true, viz., that when the responsibility is divided the result is likely to be as the meal prepared by many cooks. However, in the book before us the editor has come as near to eliminating the objections to a composite book as one could wish. While there are thirty-one contributors, a thorough editorial revision has made a uniformity of style and expression throughout that would have been impossible with such a large number of contributors had this not been made. The awkwardness, the lack of continuity of thought, and the repetition that is so common when many contributors write on allied subjects, have all been eliminated. Even the references to their own work by the different writers has been rendered into the third person. There has been a greater subdivision of labor in the preparation of this book than is usual, even in this age of collaboration. Thus we find among the contributors specialists in pathology, in neurology, in dermatology, in hygiene, etc. In the chapter on neoplasms of the uterus there are no less than eight different writers; but when it is remembered that each of these has obtained a reputation in the subject on which he writes, and that the whole has been made consecutive by the editor, all objections to this multiplicity of contributors is removed. While much of the work is of the composite nature, quite a number of the subjects are considered by individuals. Three chapters devoted to the subject of Diseases of the Female Generative Organs are written by M. L. Harris. These would make a splendid monograph on the subject, for they treat it in an exhaustive manner. The writer shows that he has a thorough knowledge of the matter, and has presented it in a most acceptable manner. Some of the subjects considered do not strictly belong to a work on gynecology—as, for instance, movable kidney, tuberculosis of the kidney, renal calculi—but they none the less add to the value of the book. The chapter on Pelvic Diseases and the Nervous Affections, by Dercum, is a valuable one. Dercum discusses the subject of neurasthenia and hysteria from the standpoint of the neurologist, but every gynecologist will endorse the assertion that no operation should be done simply to remove symptoms that are characteristic of the neuroses, but should be done for symptoms properly belonging to pelvic disease itself, and for this alone; in other words, operations should be made on surgical indications only. The three chapters on rectal diseases are out of place in a book on gynecology. The editor, in the opening paragraph, defines gynecology as "a consideration of the names, causes, prevention, diagnosis, pathology, and treatment, of diseases peculiar to women." The diseases of the rectum as they relate to the various disorders peculiar to women, are considered in their appropriate places in the book where they ought to be considered, and piles and other affections of the rectum that are common to both sexes do not come under the definition given.

While evidently it was not the design to give an elaborate description of the various operative procedures, or to take a superabundance of space with a description of minor details, yet the technic is so well presented in nearly every instance that the student will find it as helpful as though pages had to be read rather than paragraphs. The chapter on Abdominal Section is a good illustration of clear cut and easily understood descriptive writing; there is no forest of verbiage to push through, no underbrush of useless detail to get rid of. The illustrations are practically all new, being made especially for this work under the editor's direction. They are excellent and numerous. On the whole the editor is to be congratulated on the splendid work he has done in producing such an excellent up-to-date work on gynecology.

A Manual of Hygiene and Sanitation. By Seneca Egbert, A.M., M.D., Professor of Hygiene, and dean of the Medico-chirurgical College of Philadelphia. Second Edition, Enlarged and Thoroughly Revised. Illustrated with 77 Engravings. Cloth. Pp. 435. Price, $2.25. Philadelphia and New York: Lea Brothers & Co. 1900.

This second edition, occurring within two years after the appearance of the first, is itself a recommendation of any book of this class, reaching as it does, only a comparatively limited number of readers. The book is designed not merely for the medical man, but also for everyone who is interested in subjects of healthful living. Dr. Egbert has put in a convenient and readable form the main facts of hygiene and sanitation, and in the present edition has added a chapter on military hygiene as being indicated by comparatively recent events. The book as a whole has been revised, and therefore is presumed to be fully up to date. As far as we have inspected it, we find no serious discrepancies or misstatements. It is a work that can be honestly recommended not only to the medical man, but to his patients and especially to all persons who hold public offices, or even in the way of being members of boards, trustees, or otherwise having to do with matters which are in any way concerned in the question of sanitation.

Atlas and Epitome of Ophthalmoscopy and Ophthalmoscopic Diagnosis. By Prof. Dr. O. Haab, Director of the Eye Clinic in Zurich. From the Third Revised and Enlarged German Edition. Edited by Geo. E. de Schweinitz, Professor of Ophthalmology, Jefferson Medical College, Philadelphia. With 152 colored lithographic illustrations and 85 pages of text. Cloth. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Co., 1901.

Professor Haab's work on ophthalmoscopy is valuable to the student and indispensable to the specialist, for nowhere else can be found such a fine pictorial collection of changes and lesions of the eye-fundus as this volume contains. The American editor has further enhanced its usefulness by annotations and additional ophthalmoscopic illustrations. Not the least pleasing feature is the low price at which this work of art has been placed in the market.

Health and Hygiene for the Household. By John Joseph Nutt, B.L., M.D., Member of the American Medical Association. Cloth. Pp. 69. Price, 50 cents. New York: The Abbey Press.

The author of this little work endeavors to acquaint the lay reader with some of the leading facts of sanitation, and its circulation ought to do much good. Such advice is what the great majority of the people need; unfortunately, however, most people will go on in their old way. We can recommend it to the public as containing a good deal of valuable and sensible advice.

Married.

Philip Le Sage, M.D., to Miss Lizzie Meers, both of Joliet, Ill., June 26.

James C. Holdsworth, M.D., to Miss Mary E. Wolf, both of Baltimore.

John M. Fouts, M.D., to Miss Flora Jones, both of Centerville, Ind., June 26.

J. Harry Ulrich, M.D., to Miss Sallie Rittenhouse, both of Baltimore, June 25.

Robert W. Markley, M.D., to Miss Myrtle Weltzier, both of Huntley, Ill., June 26.

George W. Porter, M.D., to Miss Mabel Boyer, both of Ashton, S. Dak., June 25.

Thomas J. Case, M.D., Unionville, Iowa, to Miss Dellie Hard, of Albany, Iowa, June 26.

W. F. Black, M.D., Sayreton, Ala., to Miss Elsie Kelly, of Woodlawn, Birmingham, Ala., June 21.

Arthur G. Emerson, M.D., Lewiston, Neb., to Miss Marion Riddell, of David City, Neb., June 26.

August Conrad Schuetzler, M.D., Toledo, Ohio, to Miss Lapworth, of Hokedale, Mass., June 29.

William E. H. Morse, M.D., Algona, Iowa, to Miss Carrie I. Warrick, of Davenport, Iowa, June 21.

Deaths and Obituaries.

Joseph Le Conte, M.D., College of Physicians and Surgeons, New York, 1845, died July 5, in the Yosemite Valley, where he had gone for a brief outing. He practiced at Macon, Ga., but afterwards took up the study of natural science under Agassiz. In 1851 he became professor of natural science at Oglethorpe University, in Georgia. He was employed by the confederate government as a chemist during the war. In 1869 he was appointed professor in the University of California. He had a national reputation as a teacher and writer in philosophy, history and science.

J. Augustus Ehler, M.D., Pennsylvania Medical College, Philadelphia, 1841, died, June 29, at his home in Lancaster, Pa., aged 81. He was a member of the State Medical Society, and of the American Medical Association, an organizer of the Lancaster County Medical Society, and was reputed to be the oldest practicing physician in Pennsylvania.

William E. Wright, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1866, a member of the American Medical Association, the Iowa State Medical Society and until a short time before his death, president of the Marion County Medical Society, died at his home in Knoxville, Iowa, June 19, aged 60.

Dr. Thomas P. White, University of Strasburg, Germany, 1880, died at his home in Cincinnati, June 29, aged 46, from heart disease, after an illness of some months. He had been for a number of years physician to St. Mary's Hospital; also trustee of the Public Library of Cincinnati.

James W. E. Roby, M.D., New York University, 1887, died in St. John's Hospital, Long Island City, June 25, aged 38. He began practice in the Eastern District of Brooklyn, where he became widely known.

Harry A. Merchants, M.D., Albany (N. Y.) Medical College, 1897, a member of the East Hampden and Massachusetts State Medical societies, died at his home in Monson, from blood-poisoning, June 25, aged 34.

John Beauregard Hart, M.D., University of Maryland, of Baltimore, died at the Sheppard and Enoch Pratt Hospital, near Baltimore, June 29, from apoplexy.

E. Norris Lloyd, M.D., Jefferson Medical College, Philadelphia, 1886, of Yardley, Pa., died in Philadelphia from a self-inflicted wound in the throat, June 21.

Samuel Turner, M.D., Louisville National Medical College, 1894, committed suicide by hanging, June 28, while of unsound mind by reason of the intense heat.

Philip A. Taliaferro, M.D., Jefferson Medical College, Philadelphia, 1850, of Wareneck, Va., died suddenly, while sailing, at Gloucester Court House, Va.

John G. L. Whitehead, M.D., Philadelphia College of Medicine and Surgery (now extinct), 1852, died at his home near Crosswick, N. J., June 29.

John H. Groff, M.D., University of Maryland, Baltimore, 1866, for quarter of a century a practitioner of Penngrove, N. J., died at his home in that place, June 19.

Edward P. Stuart, M.D., New York University, 1877, died at his home in Penn Yan, N. Y., June 23, from tuberculosis, after a long illness, aged 50.

Ebenezer H. DeLand, M.D., an old and respected practitioner of Worcester, Mass., died at his home in that city, June 22, from pneumonia.

Lewis M. Eastman, M.D., University of Maryland, Baltimore, 1859, died at his home in Baltimore, June 27, from paralysis, aged 64.

Edward M. Estes, M.D., University of Louisville, 1878, died at his home in McKinney, Ky., June 19, after a long illness, aged 45.

John P. Wheeler, M.D., New York University, 1843, long a resident of Hudson, N. Y., died there June 28, aged 84.

Alson J. Foster, M.D., University of Minnesota, 1901, died at the home of his parents in St. Paul, Minn., June 23.

J. Abbott Galloupe, M.D., Harvard Medical School, died suddenly in his office in Beverly, Mass., June 25, aged 29.

William R. Barker, M.D., New York University, 1882, died at Newport, Md., June 22.

Miscellany.

Woman's Medical College of Pennsylvania.

This college, now in the fifty-second year of its existence, has just issued the annual report of its maternity department, as follows: The report of the out-obstetric department for the session of 1900-1 shows the number of cases attended from May 1, 1900, to May 1, 1901, 302; the number of children born was 303. Of these, vertex presentations amounted to 285; face, 2; podalic, 10; transverse, 5. There were no maternal deaths; the fetal deaths were 20. The number of after-visits made by physicians and students was 5017. The maternal complications consisted of generally contracted pelvis, 3; oblique pelvis, due to hip-luxation, 1; rhachitic flat pelvis, 2; albuminuria, 2; placenta previa, 1; double vagina, 1; perineal and vaginal lacerations, repaired, 67. The fetal complications consisted of shoulder presentations, 2; funic prolapsus, 5; prolapse of hand, 3; Naegele's obliquity of head, 2; breech and footling presentations, 10; face presentations, 2; twins, 4; monstrosities, 2; and ruptured cord, 1. The operations were: axis traction forceps, 2; high forceps, 3; low forceps, 6; internal version, 3; manual extraction on breech or foot, 5; craniotomy, 1; decapitation in neglected transverse, 1; operation for ankyloglossia, 9; repair of perinei and vaginæ, 67. One student attended 26 cases; six students attended, each, 12 cases; two students, each, 10 cases; twelve students, each, 9 cases; eight students, each, 8 cases; three students, each, 7 cases; three students, each, 6 cases. The number of cases attended since foundation of Maternity Hospital of the College in 1888, has been 2500. The number of maternal deaths during that time was only 2. In the hospital the number of cases delivered was 110, with no maternal deaths, and 7 fetal deaths. The maternal complications of those in the hospital consisted of, placenta previa, 1; low implantation of placenta, 1; hydramnios, 2; kyphotic pelvis, 1; funnel-shaped pelvis, 2; generally contracted pelvis, 12; rhachitic, flat pelvis, 2; mitral stenosis, 1; prolapsus of hand of child, 2; and postpartum hemorrhage, 1. The following operations were attended by the students: axis-traction forceps, 2; high forceps, 8; forceps in cavity, 12; version, 2; Cesarean section, 1; Dührssen's incisions and repair, 3; episiotomy, 6; primary perineorrhaphy, 23; amputation of supernumerary thumb, 1.

Testimonials and Patent Medicines:—The manner in which at least one large patent medicine manufactory secures its recommendations were recently exposed in this city. Two young men, agents of the Peruna Medicine Company, approached Mayor Foeltzer with an offer of one dozen fine photographs for a recommendation of the wonderful curative powers of Peruna. "But," said the mayor, "I have never even seen a bottle of Peruna, let alone being lifted from the brink of the grave by using it." "That doesn't make the slightest difference," replied the agent coolly, "all you are asked to do is to sign your name as the mayor of Benton Harbor at the bottom of a sheet of paper and authorize us to write the recommendation. No one here will ever know anything about the affair as the recommendation and photo will be published in only eastern papers. It will help us to sell Peruna and will help you to get a dozen photos." The mayor read a severe lecture to the agents and then gave them two seconds to leave his presence," replied the agent cooly, "All you are asked to do is to take up with the Peruna scheme are almost murderers. Suppose, for instance, that a sick person is led to dismiss the doctors and to feed on Peruna by these fake recommendations, and then dies. Wouldn't it come pretty close to murder—murder for a dozen photographs." The Peruna agents succeeded, nevertheless, in placing a great number of photographs in both St. Joseph and Benton Harbor. In St. Joseph recommendations were secured from some of the highest city authorities and most reputable citizens. These will be published in hundreds of newspapers in the eastern states and will lead perhaps thousands of sufferers to pay their good money for a worthless medicine. Worthless, because it is presumed that an honest medicine would be boomed exclusively by its merits.—*The Evening News*, Benton Harbor, Mich., July 6, 1901.

Dentists for the English Army.—The British war office has, according to *The Lancet*, recently been asked to send to the army in South Africa four dentists, with the view to prevent the invaliding of the men by reason of "bad teeth." The authorities have complied and have applied to the British Dental Association for advice as to instruments, furniture, etc. The medical officers of the navy are now specially trained in dentistry; moreover, a complete set of dental instruments is supplied to each ship as part of the new outfit of surgical instruments.

German School Reform Congress.—The second annual gathering in Germany of persons interested in the hygienic evolution of schools, met at Wiesbaden, May 31. Resolutions were adopted urging the appointment of medical inspectors for all institutions of learning, from the lowest to the highest. The substitution of the Latin handwriting for German script was almost unanimously advocated. We mention gratefully, by the way, that our German medical exchanges are always printed in the Latin letters, that is the same as used in America, France, England, etc.

Danger in Nursing Bottles.—Physicians do not need to be told that unclean nursing-bottles are a menace to the lives of babes—but the mothers do. It is astonishing how many mothers are not only careless but actually ignorant of this danger, and it is only by repeated warnings that they are made to realize its importance. Thousands of infants are carried off every summer from this cause that might easily be saved by proper precautions on the mother's part.

International Leper Sanitarium.—The *Gazetta degli Ospedali* states that Spain is strenuously objecting to the choice of an island off Tarifa as the site of the proposed international leprosorium, fearing contagion of her possessions in Africa. Dr. Ovilo and Lieut. Castela have been delegated to present the matter at the approaching meeting of the international committee at Tangiers.

The German Committee for the Study of Cancer held a meeting recently which was addressed by Professor Schuetz on the subject of carcinoma in animals. He stated that cancer is rare in horses, but on the other hand, it frequently occurs in dogs. The external integuments are usually affected.

Professor Mantegazza's Fortieth Professional Anniversary.—The 30th anniversary of the founding of the Florence Anthropologic Society was celebrated in connection with Mantegazza's jubilee. It is announced that an anthropologic laboratory is to be founded in his honor. Retzius brought a greeting to him from the Swedish Society, and Virchow represented his Society.

A Central Station for Testing New Medicines is to be organized in Germany in connection with the National Public Health Department. The necessity of such an institution is shown by the fact that 126 new medicines were put on the market in 1899-1900.

The Spanish Authorities are putting up a memorial tablet on the house occupied by the illustrious anatomist, R. Martinez Molina, at Madrid. In our Spanish exchanges he is called the "Perla de San Carlos."

Chair of Oto-Laryngology at Rostock.—The University of Rostock is the first German medical faculty to have a regular chair for this specialty. Professor Koerner is the first incumbent.

Professor Piero Giacosa, of Turin, has been chosen president of the section of the history of medicine in the International Congress of History to be held at Rome this fall.

Association News.

THE ST. PAUL MEETING AS VIEWED BY OUR CONFRERES.

From the Columbus Medical Journal, June.

The St. Paul meeting of the American Medical Association has been pronounced by those in attendance as one of the best in the history of this great organization. The registration was almost as large as it was at the Atlantic City meeting last year, while the Section attendance was better.

The papers were, "in almost every instance above the average in scientific interest and practical value." . . . The large attendance at the Sections, and extended discussions which were full of interest, indicate that the members were making no holiday out of the sessions. The able and stimulating address of President Dr. C. A. L. Reed, who extended greetings and invoked upon the deliberations "the spirit of liberty, courage, progress, and truth," set the pace in high thinking and earnest inquiry which characterized the meeting throughout.

The presentation and unveiling of a portrait of the founder of the Association, Dr. Nathan S. Davis, was a handsome and timely recognition of the services of this distinguished leader, who, in the language of Dr. Pennington, has perhaps done more than any other individual in promoting the efficient social organization of the medical profession throughout the United States, and in elevating the standard of medical education. This ceremony led to the appointment of a committee to secure, without expense, the portraits of past presidents of the Association. The adoption of the revised constitution and by-laws assures an effectual reorganization which will bring the state societies into more vital relations with the Association, and, by the elimination of the general morning meetings, after the first day, will give more time for Section work. The limitation of the number of papers will insure more careful preparation, and more deliberate consideration of those on the program. The completeness of arrangements reflected credit upon the local profession, and the officers of the Association, while the hospitality of the twin cities of the West won the hearts of every visitor. The first meeting of the century has revealed new phases of medical science, full of promise, and under a new constitution initiated a new era of fraternal organization.

From the Southern Practitioner, July 1.

Although the meeting at Atlantic City was perhaps larger than that at St. Paul, it had but little advantage in point of numbers; and the great change in the working methods of the organization make the last meeting notably the most important in its history. While the character of the organization is not changed, the very important change made in the future as pertains to "business," as it may come before the Association, is not only a marked feature, but one of the very greatest importance, and one that we confidently believe will redound to great good. . . . Outside the possibility of greater advantages of transacting its business properly, a longer time is afforded for the scientific work of the Association. Farther, it foreshadows, or should do so, a complete reorganization of State organizations, and no time is more suitable than the present; and we most sincerely hope to witness, within the immediate future, the reorganization of all along similar lines. Possibly local environments or customs may require some slight variations, but the general characteristics of the National, should pervade all State and Territorial Societies.

The addresses of the President, together with that on Medicine, Surgery and State Medicine, as well as the scientific work in all the Sections, so far as we can learn, compare favorably with any preceding meeting. The exhibits were well up with former meetings, and the hotel facilities were satisfactory. As for the social entertainments afforded, both general and private, as an experienced delegate, one who has been quite a regular attendant for a number of years expressed himself, "St. Paul just spread herself, and Minneapolis helped her." The election of Dr. John A. Wyeth, of New York, as President, is a fitting recognition of his abilities as a student of science, a faithful and careful worker, an eminent surgeon, and a most worthy member of his profession, and courteous gentleman. The selection of the other officers we believe will give as much satisfaction as is possible, as will also the selection of Saratoga as the next place of meeting.

The Journal of the Association is in a most prosperous condition, . . . and is rapidly becoming just what it should, the exponent of American medical opinion and thought. Yes, truly, an organ of the American medical profession with influence and weight.

From Medical Fortnightly, June 25.

It was a great meeting in every sense of the word. The attendance was large, over 2000 physicians were registered, while fully 500 more were present as lookers on. The weather was not perfect, but in spite of the rain, it was agreeable and the elements did not interfere with the proceedings of the society. St. Paul looked its best, the people did their best, and the physicians went one better, and were tireless in their desire to make the meeting a memorable one to all who came. As a result St. Paul will always figure in the history of the society. The greatest event of the meeting was the adoption of the plan of reorganization, which was unanimously accepted and became a law at this meeting.

The society is now upon a solid working basis, with stable features and powers which will be sure to yield results. The scientific work of this meeting was of a superior order, the various sections being full and of especial service to all who attended. The number of papers being less than at former meetings, more time was given to discussion. Discussion is the life of a medical meeting; this was proven true at St. Paul. Another feature, which is commendable, is that of varied symposia —a symposium with discussion on a certain subject is carefully planned and the subject exhaustively treated. The result is all that is new, all that is worthy and helpful upon a certain subject is presented and thoroughly discussed.

From Medicine, July.

The St. Paul meeting of the Association has passed into history, and will be long looked upon as one of the most successful and perhaps epoch-making in the progress of the Association.

The adoption of the report on reorganization was inevitable. A very small minority opposed it, but the concensus of opinion, being so overwhelmingly in its favor, meant that it would be promptly carried when it came to a vote. It was claimed on the floor of the convention that the proposed House of Delegates was creating an undemocratic star chamber to arbitrarily govern the Association. This suggestion came from that small coterie of individuals who, in the past, have largely attended to the business of the convention and whose occupation under the new order of things will be somewhat restricted. The creation of the House of Delegates is, in effect, enlarging the governing body and giving it a thoroughly representative character. It will relieve the general sessions of all business details, and, while they may be less picturesque, they will be more orderly.

From the St. Paul Medical Journal, July.

It was with mingled feelings of regret and relief that we witnessed the adjournment of the 52d annual meeting of the American Medical Association, which will meet next year in Saratoga. The meeting was a large one, the actual registration being eighteen hundred and ten, and there were not far from twenty-five hundred in attendance, and the body of delegates was an unusually representative one. We shall make no attempt to report the meeting in detail, as we assume that all of our readers have access to one or more of the weekly journals in which this is done much more accurately than we could do it if we attempted to. The most important event of the meeting, indeed we believe the most important event in the history of the Association, was the adoption in a modified form of the report of the Committee on Organization. We hope that every member of the Association will read carefully the plan of reorganization as it was finally adopted, and that every state and county medical society in the country will adopt the recommendations concerning membership there suggested. This matter was discussed by Dr. Wm. Davis in his address, as President of the Minnesota State Medical Society, and the Society appointed a committee to consider the matter in all its details and to report at the next annual meeting. We shall have frequent occasion to refer to this matter, and at this time we will simply say that the plan meets with our hearty approval and that we believe that it will accomplish a vast amount of good for the Association in many ways. It will, among other things, purify the politics of the Association; it cannot do away with politics, for in an association of this kind some politics are unavoidable, but with the elective power in the House of Delegates, it is not at all likely that organized cliques will come to the annual meetings with their candidates for the various offices determined upon and with a carefully arranged plan of campaign for their election. Dr. Reed was almost ideal as a presiding officer, firm, dignified, and with a perfect knowledge of parliamentary law, and his presidential address, as might be expected by those familiar with his gifted pen, was a broad, scholarly and thoughtful document, containing many helpful suggestions concerning the policy and the possibilities of the Association. It should be carefully read by those who were denied the privilege of listening to its eloquent delivery.

The Section meetings were well attended and a very large number of valuable papers were read and discussed. The Pathologic Exhibit excited much interest and a great many important subjects in pathology were represented by carefully prepared specimens and series of preparations, photographs and microscopic slides. The series of wax models representing various stages of smallpox prepared by Mr. Dahlgren, of Minneapolis, for the Pathological Laboratory of the University of Minnesota attracted much attention and was highly commended. The General Exhibits were interesting, well conducted, largely attended and satisfactory both to the exhibitors and the local committee. The hotel arrangements were admirable and we heard no complaints of uncomfortable accommodations or overcrowding. Concerning the entertainments and the social features of the meeting it is perhaps not becoming for us to speak, but we were much gratified to hear on all sides such cordial and spontaneous expressions of appreciation from our guests and we feel sure that everybody had a good time.

New Members.

The following is a list of new members of the American Medical Association for June, 1901:

ALABAMA.

Zimmerman, Albert S., Killen.
Goggans, J. A., Alexander City.
Watkins, I. L., Montgomery.

ARIZONA.

Craig, R. W., Phoenix.

ARKANSAS.

Goree, J. L., Pine Bluff.

CALIFORNIA.

Bullard, F. D., Los Angeles.
Fales, Louis Henry, San Francisco.
Bruner, Francis Marion, Santa Ana.
Caglieri, G. E., San Francisco.
Ransom, S. A., *Angel Island.*
LeFevre, Joseph P., San Francisco.

CONNECTICUT.

Goodenough, Edw. W., Waterbury.
Hammond, H. L., Killingly.
Kellogg, K. E., New Britain.

COLORADO.

Friedmann, A. C. H., Colorado Springs.
Phillips, C. W., Rocky Ford.

DISTRICT OF COLUMBIA.

Fisher, W. N., Washington.
Wertenbaker, C. P., Washington.

GEORGIA.

Chason, J. D., Bainbridge.
Battey, Wm. W., Augusta.

INDIANA.

Culp, L. L., Ft. Wayne.
Wardner, Horace, Laporte.
Cole, A. M., Indianapolis.

ILLINOIS.

Petersmeyer, Wm., Ashton.
Rutledge, J. A., Elgin.
Brewer, E. J., Ashton.
Rice, Delia N., Galesburg.
Chapin, H. A., White Hall.
Halberg, C. S. N., Chicago.
Johnson, C. W., Chicago.
Swan, C. F., Chicago.
Stewart, W. T., Chicago.
Andrews, E. W., Chicago.
Goodsmith, H. M., Chicago.
McIntyre, C. J., Chicago.
Martin, F. H., Chicago.
Sanford, W. C., Chicago.
Sandberg, K. F. M., Chicago.
Stevenson, A. F., Chicago.
Stewart, H. J., Chicago.
Webster, E. M., Chicago.
James, R. L., Blue Island.
Lillie, C. W., East St. Louis.
McGowen, T. J., Palestine.
McLaughlin, W. K., Jacksonville.
Norton, F. D., Columbus.
Peyton, D. C., Jeffersonville.
Sourwine, J. D., Brazil.

IOWA.

Patterson, W. E., Greene.
Field, Geo. Alfred, Callender.
Sowles, E. E., LuVerne.
Pattison, I., Oelwein.
Ryan, G. N., Des Moines.
Saunders, C. J., Ft. Dodge.
Warren, J. N., Sioux City.
Smith, Frank S., Nevada.
Bachman, E. W. Estherville.
Chase, C. S., Waterloo.
Deering, A. B., Boone.
Dean, F. W., Council Bluffs.
Dennis, E. G., Charles City.
Downing, W. L., Moulton.
Farnsworth, H. S., Clinton.
Fuller, Z., Sac City.
Graham, J. C., La Porte City.
Hanna, J. W., Winfield.
Harding, L. W., Salon.
McLaughlin, A. J., Sioux City.
McLean, J. W., Fayette.
Pond, A. M., Webster City.
Rawls, J. A., Creston.
Shellito, A. G., Independence.
Smith, E., Aurora.
Stevens, G. M., Decorah.
Stockman, G. C., Mason City.
Vest, F. E., Montezuma.
Herrick, S. J., Everest.
Waterman, J. C., Council Bluffs.

KANSAS.

Elmore, R. B., Osburg.
Farney, Haydee M., Mound City.
Parker, John B., Hill City.
Hunter, Randall R., Fulton.
Harkey, Wm. Cathey, Gardner.

KENTUCKY.

Smith, J. W., Clinton,
Schachner, Aug., Louisville.
Linn, C. H., Kuttawa.
Powell, W. D., Harrodsburg.
Aud, C. Z., Cecilian.
Frank, L., Louisville.
Green, J. T., Leitchfield.
McCormick, A. T., Bowling Green.

MASSACHUSETTS.

Harding, Walter A., Everett.
Gay, Wm. Fred'k, Boston.
Frame, Jos., Rockland.
Hatch, Leonard F., Lynn.
Leonard, Jr., E., Melrose.

MAINE.

Foster, B. B., Portland.

MICHIGAN.

McHench, W. J., Brighton.
Layton, Matthew A., Woodmere.
Alway, Geo. H., Gaines.
Shaw, Nenian T., Birmingham.
Seeley, Oscar F., Climax.
Warthin, Alfred S., Ann Arbor.
Ballard, W. R., Saginaw.
Bliss, J. W., Saginaw.
Godfrey, W. L., Battle Creek.
Kellogg, P. S., Battle Creek.
McLurg, J., Bay City.
Stewart, C. E., Battle Creek.
Tupper, V. L., Bay City.
West, W. K., Calumet.
Shurly, B. R., Detroit.

MINNESOTA.

Barck, G. W., Albert Lea.
Nichols, G. W., Milaca.
Freeman, J. P., Emmons.
Wing, I. C. J., Clinton.
Bouman, Hermann, Torah.
Hawkins, V. J., St. Paul.
Smith, P. Albert, Faribault.
Phillips, J. R., Northfield.
Burgan, Jas Homer, Tracy.
Mann, Arthur T., Minneapolis.
Hesselgrave, S. S., St. Paul.
Avery, J. F., Aitkin.
Wood, W. S., Geneva.
Johnson, Osa, St. Paul.
Nippert, H. T., St. Paul.
Behrens, B. M., Minneapolis.
Bjelland, A. O., Mankato.
Holbrook, J. S., Mankato.
Johnson, J. S., St. Paul.
Landenberger, John, New Prague.
McKinnon, Malcolm, Fosston.
Miller, A. W., St. Paul.
Whitcomb, E. H., St. Paul.
Morley, Wm. B., St. Paul.
Sherwood, Geo. S., Kimball.
Vittum, W. H., St. Paul.
Camp, J. L., Brainerd.
Dimmitt, F. W., Red Wing.
Jacoby, Wm., Wells.
Allen, A. W., Austin.
Adsit, A. M., Hastings.
Anderson, C. A., Rush City.
Arzt, C. P., St. Paul.
Bachman, C. E., Evansville.
Barton, G. C., Minneapolis.
Bean, C. E., St. Paul.
Bole, R. S. St. Paul.
Boot, G. W., Lamberton.
Boyd, C. A., Lewiston.
Braden, A. J., Duluth.
Bray, C. W., Biwabik.
Buckley, E. W., St. Paul.
Button, A. J., Hammond.
Burton, C. N., Elinore.
Cremer, M. H., Mazeppa.
Cox, A. J., Tyler.
Dodge, F. A., Le Sueur.
Dodge, W. M., Farmington.
Dunn, J. B., St. Cloud.
Ely, C. B., Rochester.
Franchere, F. E., St. James.
Freeman, W. W., Grand Meadow
Fritsche, L. A., New Ulm.
Frost, E. H., Wilmar.
Gallagher, J. W. S., Winona.
Hansen, M., Hendrum.
Lichtenstein, H., Winona.
McKean, J., Montgomery.
Mayland, M. L., Faribault.
Mikkelsen, M., Wells.
O'Hara, J. J., Alma City.
Peters, R. M., Minneapolis.
Plondke, F. J., St. Paul.
Pritchard, D. B., Winona.
Randall, B. M., Graceville.
Renz, G. A., St. Paul.
Roberts, T. S., Minneapolis.
Rood, D. C., Hibbing.
Rose, F. M., Faribault.
Schoch, J. L., New Ulm.
Simpson, J. D., Minneapolis.
Schofield, C. L., Benson.
Schoonmaker, E. C., Perham.
Slocumb, J. A., Plainview.
Stoner, R. R., Winthrop.
Stover, E. E., Bigelow.
Trace, O. C., Little Falls.
Van Beeck, H. G. C., Hastings.
Waltam, G. S., Warren.
Watson, T. R., Zumbro Falls.
Williams, John, Lake Crystal.
Wood, E. S., St. Paul.
Ritchie, P., Ramsey.

MISSISSIPPI.

Ballard, J. C., Natchez.
Harris, T. A., Rosedale.

MISSOURI.

[illegible] A., Kirksville.
[illegible]
Sawtell, J. E., Kansas City.
Gaines, J. R., Musselfork.

Townsend, Jas. A., Unionville.
Lincoln, Ben. S., Monroe City.
Fuson, Frank B., Mansfield.
Carter, Oscar Newton, Lebanon.
Fritts, J. R., Mexico.
Standly, E. D., Linneus.
Nash, G. A., Maryville.
Scott, J. N., Kansas City.
Greene, J. V., Kansas City.
Jackson, C. M., Columbia.
Long, O. M., Harrisburg.
Morton, D., St. Joseph.
Robinson, J. F., Nevada.
Wiener, M:, St. Louis.
Dannaker, C. A., Kansas City.

MONTANA.

Wine, W. B., Dupuyer.
McDonald, H. J., Butte.
Spelman, J. F., Anaconda.

NEBRASKA.

Brown, Ewing, Omaha.
Hepperlen, H. M., Beatrice.
Gilmore, R. A., Omaha.
Bridges. E. L., Wausa.
Clements, G. P., Clarkson.
Haggard, J. R., Lincoln.
Henry, E. C., Omaha.

NEW JERSEY.

Carling, W. Monroe, Trenton.
Ramsay, W. E., Perth Amboy.

NEW YORK.

Byrne, Patrick J., New York City.
Bozovsky, V. D., Dunkirk.
Jack, G. N., Depew.
Houghton, H. S., New York City.
Bloodgood, D., Brooklyn.
Gumaer, A. G., Buffalo.

NORTH DAKOTA.

Currie, A. N., Hatton.
Baier, Florence C., Jamestown.
Baldwin, L. B., Jamestown.
Fiset, L. O., Grand Forks.
Gerrish, W. A., Enderlin.
McKenzie, J. D., Milnor.
Meckstroth, L. W., Wahpeton.
Pray, E. A., Valley City.
Quain, E. P., Bismarck.
Rounsvelle, A. P., Larimore.
Sifton, J. W., Jamestown.
Spottswood, C. P., Hankinson.

OHIO.

Calhoun, S. Fred'k, Cleveland.
White, D. K., Cleveland.
Barnes, Albert S., Cambridge.
Chadbourne, T. L., Gallipolis.
Clark, C. R., Youngstown.
Dickson, J. A., Ashtabula.
Kimmell, J. A., Findlay.
Rathburn, D. C., Middleport.
Sylvester, J. E., Wellston.
Wagar, C. P., Toledo.
Krouse, L. J., Cincinnati.
Schwab, L., Cincinnati.

OKLAHOMA.

Love, R. D., Perry.

PENNSYLVANIA.

Newell, Mary E., Altoona.
Wadsworth, Wm. S., Philadelphia.
Myers, Rudolph, Huntingdon.
Rinard, Charles C., Homestead.
Nones, R. H., Philadelphia.
Neff, E. L., Pittsburg.
Brubaker, J. L., Altoona.
Hayes, F. M., Allegheny.
Shallenberger, H. M., Rochester.
Sheridan, J. C., Johnstown.

RHODE ISLAND.

Merriman, Alfred M., Bristol.

SOUTH DAKOTA.

Coulter, J. E., Desmet.
Cook, J. F., Langford.
Jones, J. D., Groton.
Lane, W. H., Miller.
Mallery, C. B., Aberdeen.

TENNESSEE.

Haigler, T. W., Chattanooga.
Meyer, L. L., Memphis.
Watson, Wm. T., Lexington.
Eve, Paul F., Nashville.
Hall, D. M., Memphis.
Witherington, J. B., Munford.

TEXAS.

Aronson, Emile, Dallas.
Gilbert, A. J., Hillsboro.
Gray, C. A., Bonham.
Seay, E. L., Denison.
Wilson, Robt. S., Gainesville.

VIRGINIA.

McCurdy, Neil A., Norfolk.

WASHINGTON.

Yocum, J. R., Tacoma.

WEST VIRGINIA.

Long, D. J., Piedmont.

WISCONSIN.

Buchanan, R. C., Green Bay.
Chittenden, G. C., Madison.
Conkey, C. D., West Superior.
Conger, F. G., Mondovi.
Elkinton, C. H., Eleva.
Epley, F. W., New Richmond.
Godfrey, J., Lancaster.
Head, L. A., Madison.
Hudgel, Chas R., Ladysmith.
Keenan, Geo., Madison.
Mills, N. P., Appleton.
Moyer, S. R., Monroe.
Noyes, J. C., Oshkosh.
Perrin, H. E., Star Prairie.
Philler, H., Waukesha.
Sharp, M. B., Madison.
Sperry, W. P., Phillips.
Thibodo, F. H., Green Bay.
Witte, W. C. F., Milwaukee.
Wiley, F. S., Fond du Lac.

Report on the Pathologic Exhibit of the American Medical Association at the St. Paul Meeting Held June 4 to 7, 1901.

FRANK B. WYNN, CHAIRMAN,

INDIANAPOLIS.

Many have borne appreciative testimony to the success of the first Pathologic Exhibit of the Association, inaugurated at Atlantic City a year ago. It was a wholesome digression from the monotony of commercial exhibits and appealed at once to those striving for the higher ideals in medicine. The pathologist, expert clinician and general practitioner alike found it interesting, instructive and useful. Considering the ethical and scientific spirit of the Association, official approval of the movement was a result anticipated. An appropriation was made commensurate with the importance of the work, which was to be under the supervision of the Section on Pathology and Bacteriology.

Profiting by the experience of a year ago, it was hoped for the St. Paul meeting to secure a better balanced exhibit, both in the scope and character of material presented. The difficulties in the attainment of this end were, first, to secure the promise of exhibits, and secondly, to ascertain from prospective exhibitors a list of what it was designed to contribute. In this way it was sought to obtain an approximate estimate of the quantity and character of available material. Thus, would unnecessary duplication of specimens be avoided, and the exhibit built up at weak points, giving it symmetry. In the very nature of things this was an arduous undertaking, both on the part of the Committee and those who signified a willingness to contribute. In the main the hopes and desires of the Committee have been realized. When it is remembered that the large labor necessary in the preparation and presentation of the exhibit was performed by exhibitors gratuitously, one can but marvel at the results attained. What stronger proof could be given of the unselfishness of the true scientific spirit? A corps of over fifty scientific workers, many of them eminent in the field of pathology, labored faithfully for this enterprise at home, and at the St. Paul meeting subordinated pleasure to the successful demonstration of the Pathologic Exhibit, making of it a great common school of practical pathology, for the rank and file of the profession. They merit and have won the grateful thanks and unstinted praise of the whole Association.

Although the Pathologic Exhibit is under the direction of the Section on Pathology and Physiology, it is a feature of the Association to which all Sections are related. Next to the place where the general sessions are held, the Pathologic Exhibit rooms should be the most important common meeting-place for the members of all Sections. It is, therefore, the duty of the Committee of Arrangements each year, to provide for the Pathologic Exhibit, ample space, conveniently located, well lighted, and separate and distinct from the commercial exhibits. The local committee on Pathologic Exhibit deserves thanks for securing the best available quarters at St. Paul. Unfortunately the room was not convenient of access. Consequently, the attendance at the exhibit was not what its excellence warranted.

In the summary which follows, the merest reference only is possible to exhibitors and their collections. Inadequate as the report of necessity is, it will give the reader a general idea of the great work accomplished in this practical scientific department of the Association.

A.—SOCIETIES.

Cincinnati Academy of Medicine: H. J. Whitacre.

Miscellaneous specimens	50

This well-known medical organization did credit to itself and the Queen City by sending to the exhibit this excellent collection. Particularly noteworthy was a series of specimens illustrative of prostatic hypertrophy.

Indiana State Medical Society: Frank B. Wynn, Indianapolis.

Photomicrographs of malarial blood, etc	50
Photographs illustrative of different types of feeble-minded	25
Series of photographs illustrative of different types of criminals	42
Gross specimens	110
Total	227

Especially interesting was the group of photomicrographs of malarial blood and bacteria by C. S. Bond; also the series of photographs representing different types of criminals, by A. L. Spinning. Among the gross specimens was shown a group of livers illustrating beautifully and typically alcoholic, syphilitic and biliary cirrhosis. There was also a fine series of brains showing cerebral hemorrhage. This Society participated in the exhibit last year and enjoys the distinction of being the pioneer in this line of society work.

Kansas State Medical Society: Geo. A. Boyd, Baldwin.

Miscellaneous collection of gross specimens	30

Most interesting and instructive in this exhibit was a collection of mosquitoes from all parts of the world, mapped to show their relationship to malaria.

Wisconsin State Medical Society: H. V. Würdemann and Gustav A. Kletzesch, Milwaukee.

Collection of eye specimens	40

This extraordinary collection of eye specimens, beautifully mounted in glycerin jelly, gave a very comprehensive view of gross pathologic conditions of the organ.

B.—COLLEGES.

Chicago Policlinic: Maximilian Herzog.

Gross specimens	30

Very interesting in this collection was a series of tubal pregnancies and several specimens of myoma complicating pregnancy.

College of Physicians and Surgeons, Chicago: W. A. Evans, W. T. Eckley and C. E. Coates.

SEMI-MOIST AND DRY SPECIMENS.

Nasal fossa and accessory sinuses	20
Antrum of Highmore	12
Dural sinuses	12
Of male and female pelves	5
Pott's fracture, tubercular spine, etc	5
Joints	12
Male urethral	6
Brain and spinal cord	7
Pathologic skiagraphs	65
Photomicrographs	36
Miscellaneous	5

WET SPECIMENS.

Tuberculosis	20
Carcinoma	10
Gangrene	6
Uterus and ovary	16
Miscellaneous	8
Total	245

This very large and beautiful collection consisted of anatomic as well as pathologic specimens and was especially noteworthy for its superior average excellence. The semi-moist specimens exhibited outside of containers, afforded great advantages for close inspection.

McGill University, Montreal, Canada: J. G. Adami.

Miscellaneous specimens	11

Prof. Adami was not able to be present in person, but evidenced his interest in the exhibit by sending this choice collection. Very striking was the group of cerebral aneurysms.

Hamlin University, Medical Department, Minneapolis: J. F. Corbett.

Gross, dry, bone specimens	75

This beautifully mounted collection of bone specimens represented a wide range of pathologic conditions.

Medico-Chirurgical College, Philadelphia: Joseph McFarland,

Skiagraphs	26
Microscopic demonstrations	25
Total	51

The striking feature of this exhibit consisted of a series of microscopic specimens showing beautifully all the various neoplasms and other important pathologic conditions found in the mammary gland.

Northwestern University Medical School, Chicago: G. Fütterer and F. Robert Zeit.

This remarkable collection consisted of tumors grouped anatomically as follows:

A. Endothelioma of humerus with extensive metastases	6
B. Carcinoma of uterus	9
C. Primary carcinoma causing implantation in other organs	4
D. Carcinoma with cells performing physiologic function like organ where found	1
E. Carcinoma of breast with many metastases	4
F. Carcinoma of gastro-intestinal tract, particularly of stomach in reference to gastric ulcer	12
G. Tumors of the mamma	5
H. Cysts of ovaries	7
I. Miscellaneous	17
Photographs accompanying the foregoing	50
Total	115

These were all Kaiserling preparations, mounted in unique oak frames with glass centers. getting rid of the refractive distortions of round jars. The entire group was instructive alike to the pathologist and practitioner.

Wisconsin College of Physicians and Surgeons, Milwaukee.

Miscellaneous gross specimens	17

Some of these were very excellent specimens.

Rush Medical College, Chicago: Ludvig Hektoen and H. G. Wells.

Jar specimens, miscellaneous	35
Bone specimens, dry	6
Group of eye specimens mounted in glycerin jelly	12
Photographs	14
Cultures of blastomycetic dermatitis	20
Books illustrating laboratory training	14
Total	101

The students' note-books which were exhibited contained many original drawings of exceptional merit, which bore eloquent testimony to the superior laboratory training received. The jar specimens were all rare. Almost without exception, they were accompanied by published reports.

University of Minnesota, Minneapolis: F. F. Wesbrook, L. B. Wilson and S. M. White.

Sets of cultures of bacteria showing method of preserving cultures for purposes of demonstration	26
Colored wax models of smallpox, chicken-pox, pemphigus, etc., made by B. E. Dahlgren from plaster impressions taken by G. D. Haggard	40
Jar preparations—miscellaneous	149
Dry bone and other specimens	18
Photographs	20
Large water colors, illustrating classification of bacillus diphtheriæ	21
Total	274

Most striking in this large and well-arranged exhibit was the beautiful set of wax models referred to above. The plan of preserving cultures for purposes of demonstration is unique, artistic and practical. The excellence of this collection was made patent by the constant presence of someone to demonstrate the specimens.

C.—HOSPITALS, MUSEUMS, ETC.

Central Indiana Hospital for Insane: George F. Edenharter and William Charles White.

Photographs illustrating different types of insanity	62
Photographs of Pathological Building and equipment of hospital	26
Gross specimens	12
Total	100

The photographs of the insane were especially fine. Noteworthy among the gross specimens was one of biliary cirrhosis *arising from obstruction of the common duct by a stone.*

Iowa Hospital for Insane, Independence: Gershom H. Hill and Albert M. Barrett.

Miscellaneous gross specimens	30

These were all Kaiserling preparations and accompanied by carefully prepared data, bearing excellent testimony to the pathologic work being done in the institution.

Government Hospital for Insane, Washington, D. C.: A. B. Richardson and I. W. Blackburn.

Miscellaneous gross specimens	40

This institution contributed very generously toward the success of the Atlantic City Exhibit. Although neither representative was able to be present this year, their good will toward the movement was shown in this excellent collection of gross specimens contributed. Very beautiful were those of aneurysm of the heart, hepatic, cirrhosis and prostatic hypertrophy.

Lakeside Hospital, Cleveland: W. T. Howard, Jr.

Miscellaneous gross specimens	25

This institution was very creditably represented both this and last year. Rare and instructive were the neoplasms as follows: Carcinoma with tuberculosis of cecum; primary carcinoma with cirrhosis of liver; angio-sarcoma of humerus; primary muscle cell sarcoma of uterine wall; sarcoma of both suprarenal bodies; and primary sarcoma of stomach.

St. Luke's Hospital, Richmond, Va.: Stuart McGuire.

Stone in the bladder with foreign bodies as neuclei	5

These stones were removed from the female bladder. Three were formed on hair-pins: another about a broken fragment of gum catheter, and the fifth upon a segment of a silver catheter.

St. Mary's Hospital, Rochester, Minn.: Drs. Mayo.

Miscellaneous gross collection	27

The distinctive feature of this collection was a series of pathologic appendices showing: 1. Acute appendicitis, 6 to 36 hours after primary attack. 2. Showing abscess, gangrene and foreign bodies. operation 3 to 12 hours after first attack. 3. Chronic form, operation between attacks. 4. Chronic obliterating appendicitis.

St. Peter Hospital for Insane: H. D. Valin.

Pathologic brains, dry	12
Wet specimens	8
Casts of brains	10
Photomicrographs	37
Miscellaneous	68
Total	135

This entire collection gave ample evidence of excellent work being done in this institution in the field of neuropathology.

Department of Public Health, Chicago.

Photographs of smallpox and chicken-pox	50

This was a most excellent series of photographs.

U. S. Army Medical Museum, Washington, D. C.: Col. Calvin DeWitt and Capt. A. E. Bradley.

Radiographs of gunshot fractures received by soldiers in the Spanish-American war	24
Fractures received by soldiers in the war of 1861-65, of interest by way of comparison with the radiographs. The varying effect of the different type of missile was well shown	25

Intestinal lesions of typhoid fever and dysentery	17
Finely mounted series of dental deformities	35
Plaster casts of Peruvian skulls, showing prehistoric trephining. Some of these skulls presented evidence of healing after operation	19
Total	120

This very fine collection, sent from the great Army Medical Museum, is evidence of the good will borne the Pathologic Exhibit by Surgeon General Sternberg and his colleagues.

U. S. Bureau of Animal Industry, Washington, D.C.: D. E. Salmon.

Tuberculosis in meat, specimens	50

Those who attended the Atlantic City meeting will recall the extraordinary demonstration of diseased meats which Dr. Salmon made in the Pathologic Exhibit, comprehending all the gross pathologic conditions found in Government meat inspection. For this year's Exhibit he again presented cold-storage specimens, limiting them, however, to tuberculosis in animals. This typical group, eminently interesting and instructive in itself, was rendered doubly so by its proximity to the group showing tuberculosis in the human being.

INDIVIDUALS CONTRIBUTING COLLECTIONS.

Emil Amberg, Detroit.

This was a collection of dry-bone specimens which proved extremely interesting to otologists. They were grouped as follows:

1. Series showing variation in position of lateral sinus (temporal bones)	20
2. Specimens with abnormally developed styloid process (temporal bones)	20
3. Specimens showing development of styloid process at different ages	29
4. Specimens showing topographic anatomy of ear	21
5. Other specimens	4
Total	94

Edward Boeckmann, St. Paul.

Photographs of lepers	14

This was an exceptionally fine series of photographs, representing the different varieties and stages of the disease.

Frederic S. Dennis, New York.

Gross specimens	100

Dr. Dennis exhibited a series of sarcomata and carcinomata involving the bones and glands. They were presented in connection with a paper read before the Section on Surgery and Anatomy, on "Treatment of Malignant Disease by Surgical Operation." The specimens were from his tabulated cases in which no recurrence has taken place.

James Nevin Hyde and Frank Hugh Montgomery, Chicago.

Photographs of blastomycetic dermatitis	53
Cultures of blastomycetic dermatitis	20
Total	73

This beautiful series of photographs was highly appreciated by all dermatologists as well as many others interested in this rare skin affection upon which these gentlemen are eminent authorities.

Leo Loeb, Chicago.

Specimens	20

This was a most excellent demonstration of research and experimental work, a feature of the Pathologic Exhibit which the Committee has been anxious to build up. The bodies of ten rats were exhibited, showing tumors in a series of succeeding transplantations of sarcoma of the thyroid in a rat. Drawings from microscopic sections accompanied the gross specimens.

Charles Lester Leonard.

Beautiful series of skiagraphs, showing renal and urethral calculi	10
Total number of specimens constituting the Pathologic exhibit	2130

Societies.

Chicago Electro-Medical Society.—This society has been organized with Dr. Shobal V. Clevenger, president, and Dr. Gordon G. Burdick, secretary.

Northwestern University Medical School Alumni Association.—At the annual meeting of this association, Dr. William A. Mann, Chicago, was elected president, and Dr. Henry B. Hemenway, Evanston, secretary.

Panhandle (of Texas) Medical Society.—The seventh quarterly meeting of this society will be held at Amarillo, July 16 and 17, under the presidency of Dr. David R. Fey of that place.

Practitioners' Club (Jersey City, N. J.).—At the fourth annual meeting and dinner of this club, June 11, Dr. Gordon K. Dickinson, Jersey City, was elected president; Dr. Charles A. Gilchrist, Hoboken, vice-president, and Dr. George W. Shera, Jersey City, secretary and treasurer.

New York State Medical Association.—Third District Branch.—The annual meeting of this branch of the State Association was held in Ithaca, June 13 and 14. Dr. Elias Lester, Seneca Falls, was elected president; Dr. Bernard S. Moore, Syracuse, secretary, and Dr. Chauncey P. Biggs, Ithaca, treasurer.

Ulster County (N. Y.) Medical Association.—The Ulster County branch of the New York State Medical Association was organized at Kingston, June 20, with the following officers: Dr. Fred Huehne, Rondout, president; Dr. James L. Preston, Kingston, vice-president; Dr. Alice Devine, Ellenville, secretary, and Dr. Alexander A. Stern, Rondout, treasurer.

Union County (Ohio) Medical Association.—The physicians of Union County met at Marysville, June 11, and organized an association with the following officers: Dr. David W. Henderson, president; Dr. Charles McCune, of Unionville, and Alexander Smith, of Pottersburg, vice-presidents, and Dr. Stanley J. Bowen, of Claiborne, secretary and treasurer.

Northern Aroostook (Maine) Medical and Surgical Society.—The annual meeting of this society was held at Caribou, June 11. The following officers were elected: Dr. Herbert F. Kalloch, Fort Fairfield, president; Drs. Charles E. Dow, of Mapleton, and E. H. Doble, of Presque Isle, vice-presidents; Dr. Jefferson F. Cary, Caribou, treasurer, and Dr. W. G. Chamberlain, Fort Fairfield, secretary. The next meeting will be held in September at Presque Isle.

Washington State Medical Society.—The twelfth annual meeting of this society was held at Seattle, June 18, 19 and 20. A committee was appointed to devise a common form of constitution for the various county medical societies throughout the state. The election of officers resulted as follows: Dr. John W. Bean, Ellensburg, president; Drs. Henry B. Luhn, of Spokane, and Frantz H. Coe, of Seattle, vice-presidents; Dr. James B. Eagleson, Seattle, treasurer, and Dr. Arthur H. Coe, Spokane, secretary. Tacoma was selected as the meeting-place for 1902.

New Jersey State Medical Society.—The 135th annual meeting of this society was held at Deal Beach, June 25-27. Acting President Dr. John D. McGill, Jersey City, in the chair. The following officers were elected: Dr. John D. McGill, Jersey City, president; Drs. E. L. B. Godfrey, of Camden, Henry Mitchell, of Asbury Park, and Addison W. Taylor, of Beverly, vice-presidents; Dr. Ellis W. Hedges, Plainfield, corresponding secretary; Dr. William J. Chandler, South Orange, recording secretary, and Dr. Archibald Mercer, Newark, treasurer. The next meeting will be held at Atlantic City.

Wisconsin State Medical Societies.—A joint meeting of the Wisconsin State Medical Society, Wisconsin State Eclectic Medical Society and Homeopathic Medical Society of the State of Wisconsin was held in Waukesha, June 26. Dr. William H. Washburn, Milwaukee, representing the regular school, delivered an address on "The State Control of the Practice of Medicine;" Dr. J. V. Stevens, Jefferson, representing the eclectic school, spoke on "The Sanitation and Public Control of Charitable Institutions," and Dr. Quincy O. Sutherland, representing the homeopathic school, addressed the convention on "The National Control of the Practice of Medicine."

Colorado State Medical Society.—The annual meeting of this society was held June 18, 19 and 20, at Denver, Dr. William P. Munn, Denver, presiding. In his address he advocated a school of instruction for the training of health officers. He said that physicians did not advocate vaccination for commercial benefits because it would be more profitable financially to the physician to let smallpox attack as many patients as possible. The following officers were elected: Dr. Richard W. Corwin, Pueblo, president: Drs. William W. Grant, of Denver, P. J. McHugh, of Fort Collins and Z. J. Forhan, of Trinidad, vice-presidents; Dr. James M. Blaine, Denver, corresponding secretary; Dr. Minnie C. T. Love, Denver, recording secretary, and Dr. William J. Rothwell, Denver, treasurer. The 1902 meeting will be held in Pueblo.

CHICAGO SOCIETY OF INTERNAL MEDICINE.

Annual Meeting, June 27, 1901.

The president, Dr. John A. Robison, in the Chair.

Causation, Effects, Prophylaxis and Management of Biliary Calculi.

Dr. I. N. Danforth said that the most common cause of biliary calculi was a catarrhal inflammation of the gall ducts. He detailed a case, the wife of a minister, who thought she was going to die of cancer of the liver. She presented no symptoms of that disease, but her case was clearly one of inflammation of the liver with subacute nephritis of several years duration. Patient manifested all the symptoms of gallstones. He operated and found stones in the hepatic duct, not in the gall bladder. Patient died a short time after the operation. Post-mortem examination disclosed considerable enlargement of the liver, and the ramifications of the gall ducts were filled with a thick, tenacious mucus, precipitated crystals of salts, and a number of small calculi.

He reported another case which came under his observation ten years ago, in which a diagnosis of floating kidney was made. The patient was sent to him for operation. He operated, expecting to find a floating kidney, but when he reached the position where the kidney ought to be, he found it was not the kidney at fault, but a floating liver. He evacuated a pint or more of thickened bile. Four gallstones were found in the common duct and removed. A biliary fistula followed the operation, so that bile escaped through it for a month or more afterwards, but the fistula gradually closed up, and the patient recovered, with the exception that she had an enlarged or hypertrophied liver, and had occasionally bilious attacks, during which time there was more or less tenderness over the liver. This case of gallstones had its inception in a chronic catarrhal inflammation of the gall ducts.

Dr. M. L. Goodkind thought that catarrhal conditions of the gastro-intestinal tract were predisposing factors in producing gallstones, constituting a suitable soil for the development of organisms within the bowel. The colon bacillus was not infrequently found in the gall bladder as a direct cause, the catarrhal condition simply operating as a predisposing factor. It was found after typhoid fever. He had had several cases operated on, in which there seemed to be a direct history following typhoid fever. He had seen three or four cases of gallstones at the Michael Reese Hospital which were directly due to mitral stenosis. In an English text-book mitral stenosis was mentioned as a frequent cause of gallstones, the statistics given by Gibson being that gallstones occurred in about 6 per cent. of all women, and in from 20 to 26 per cent. of all men, having mitral stenosis.

Another condition which was frequently associated with gallstones, is Glenard's disease of enteroptosis and gastroptosis, but whether that was due to the same cause that brought on gallstones, as tight lacing and debility, or whether it was a direct cause, he did not know.

Prophylaxis consisted in keeping the gastro-intestinal tract in as good condition as possible during the acute infectious diseases, particularly those that manifested themselves in the intestinal tract. The diet should be carefully watched. People predisposed to mitral stenosis should pay attention to the action of the liver: to the action of the intestinal canal. The bowels should be flushed for a month or so after an infectious disease, such as typhoid fever, particularly where constipation existed, by the occasional use of phosphate of soda, intestinal antiseptics, benzoate of soda and salicylate of soda being preferred by most authorities.

His own experience, in the management of biliary calculi, had been favorable to medical treatment. He had gone through the Carlsbad treatment of his patients, using phosphate of soda, rhubarb, etc. In the management of biliary calculi during the attack, to relieve pain he had resorted to Hoffman's drops, hot fomentations, and various external remedies, but had never found them successful. He had relied, during the attack, on whiffs of chloroform.

Dr. Liston H. Montgomery referred to the surgical treatment of biliary calculi and spoke of cholecystotomy, saying that this operation was first proposed in 1733. At that time the operation was considered feasible by French, German, and English surgeons.

Dr. Edward F. Wells stated that the first recorded operation for gallstones, deliberately undertaken, was made by Bobbs, of Indianapolis, Ind., some time before 1870. A few years after that, and before Dr. Bartholow operated, Dr. Marion Sims advocated strongly and operated for gallstones. He remembered the circumstances particularly, for the reason that in the year 1876 his attention was called to an article published in the *Boston Medical and Surgical Journal*, by a Baltimore physician, entitled, "A Medical Reclamation from Surgery in the Treatment of Gallstones." In this article choloroform was advocated as an internal remedy. Cholecystotomy had already been established in medical practice previous to 1876. He had prescribed chloroform from the time he read the article referred to to the present day. If chloroform was any benefit in the treatment of gallstones, it acted as a solvent of them. But it might be beneficial in other ways. It might promote secretion of bile; it might promote fluidity of the bile and prevent the formation of gallstones. He believed chloroform was a very useful agent. He was positive that his patients were not mistaken about the benefits which they had derived from taking chloroform for a long period. One of his patients had taken it week after week, and month after month for 15 years, and he did not think patients would continue any one remedy any such length of time as he had seen patients do with chloroform without believing they had received benefit from it. Gallstone colic, from which patients suffered, might be due to a single stone which was dislodged, and the patient might take chloroform or anything else and not have another attack. A patient might have an attack of gallstone colic and never have another, so that because apparent benefit had been derived, it did not follow that real benefit had accrued. The remedy was certainly a harmless one, and he still prescribed it. He gave it in from 10 to 20 drop doses, three times a day, in cream or syrup. Patients were able to take it indefinitely, and after taking it for a year or so they would ask if there was any harm in continuing it, and, if not, they would continue to use it. In answer to the question whether there was any danger of patients acquiring the chloroform habit, Dr. Wells replied that he did not think so, and again called attention to the case of the man who had taken it for fifteen years.

Recently he had a patient who was taken ill with severe abdominal pain, followed by nausea and vomiting. He saw him the next morning, at which time the patient placed his hand in the lower part of the abdomen on the right side above Poupart's ligament. This region was very tender. Temperature was 101; pulse moderately accelerated. He made a probable diagnosis of appendicitis. A blood count was made showing moderate leucocytosis. No uranalysis was made, and there was no bile present in the urine. There was no jaundice. At the end of three days he was free from pain and fever, although the slight tenderness in the region referred to continued. On the fourth day patient went to his place of business in Hammond, walked a considerable distance, returned home not feeling so well. The next morning, at 4:30, he was seized with excruciating pain in the abdomen. The speaker was sent for. He found the man rolling in bed on his hands and occupying every imaginable position on account of agonizing pain. The pain had returned and was of the same character as that from which he had suffered four or five days before. He said to himself that no man with appendicitis was going to roll on the bed and get on his hands and knees, while a man with gallstone colic might do so. Here was a diagnostic point of value. It was easy to conclude as to the nature of the affection. Pain and tenderness in the lower portion of the abdomen returned, and in fact tenderness had never disappeared. Fever recurred. The pulse became accelerated. Patient vomited once or twice, but had no jaundice, no bile in the urine. The gall bladder was opened, and a number of gallstones removed. At a secondary operation a number of very large gallstones were removed, probably twenty large ones, and a large number of small ones. An unusual feature in this case was a localized peritonitis occupying the right half of the abdomen, extending down as far as the iliac fossa and nearly to the median line, spread out almost as large as the hand, containing a considerable amount of flocculent serum. It was walled off from the general abdominal cavity, and did not contain bile, although the gall bladder lay in immediate juxtaposition to this.

Dr. George W. Webster directed attention to a number of points in regard to the symptomatology. He said we should distinguish carefully between those cases in which there was a stone or multiple stones in the common duct, and those in which there was obstruction due to stones or a stone in the cystic duct. The symptomatology in both of these cases was rather characteristic, and each one furnished peculiar clinical features that were of interest and served to distinguish readily one from the other. In those cases in which there was a stone in the common duct, particularly a movable stone, having the ball-valve action first described by Osler, we might have two sets of symptoms. The blood-pressure in the portal vein was the lowest perhaps of any vein in the body. There were three other veins spreading out from this through which collateral circulation might be established where there was increased pressure in the portal vein. For example, the inferior hemorrhoidal, the superior epigastric and the azygos veins were the ones to which he referred. When for any cause there was increased obstruction in the liver, therefore diminished celerity of flow of blood in the liver, this led to increased pressure in the portal vein. This would immediately cause a diversion of a part of the blood stream which should pass through the liver through the collateral circulation, and we had symptoms due to substances, such as the products of proteid digestion, peptone, and the like, in the blood, with extreme lowering of blood tension, mental depression, and other symptoms which were characteristic of toxemia merely due to a normal blood stream which should have these substances removed by passing through the liver. In other words, we had symptoms similar to those which snake poisoning would produce if injected into the systemic circulation without passing through the portal vein. We had added to that certain causes in which there was real infection. There might be symptoms of infection, and oftentimes added to both of these there might be a picture of cholemia. The clinical picture was a composite one. If we interpreted the symptoms rightly, in the majority of cases we could tell whether there was merely a cholemia, an obstruction of the portal circulation, or a more extensive obstruction in that region. For example, it was known that the circulatory activity of the liver depended largely on the chemistry of digestion. Where there was alcoholic gastritis, or gastritis from any other cause, we would have increased activity of the liver due to the increased chemical activity of the digestive organs. This led to increased pressure in the liver, increased pressure in the portal circulation, and we had this diversion of the blood from the collateral channels, and the symptoms found under those circumstances were due to the influence of the blood, which should have passed through the liver, being diverted and acting on a susceptible nervous system.

In regard to the treatment, he was long ago convinced that there was only one treatment, namely, a surgical operation. If the patient could not be relieved by medicinal means, the physicians should refer him to a surgeon.

Dr. Liston H. Montgomery asked in regard to treating biliary calculi with large doses of olive oil. In a few instances he had used sweet oil with great benefit. He hardly knew whether the oil was a solvent or whether it assisted the passage of the stones on through the ducts into the intestine.

Dr. Goodkind said that he had used it, but without good results.

Dr. Goodkind said that he had yet to see the first case of genuine gallstones that had been cured by olive oil either given by the mouth or per rectum.

Dr. Wells said that surgical treatment was the proper method of managing gallstones. However, neither medical nor surgical treatment alone was the best and proper management for every case. It was within the experience of every member of the Society to have had patients who had had attacks of gallstone colic and who, through many years, had never had another attack. Gall bladders had been opened post-mortem, with but a single gallstone present, or but few or no gallstones present in cases in which gallstones had been diagnosed. If a patient recovered from an attack of biliary colic, and was in good health, he did not think he or she should be operated on. It was well to keep such patients under observation, and if frequent attacks of biliary colic occurred, then they should be operated.

Dr. John A. Robison said that the frequency with which gallstones followed typhoid fever called to his mind an interesting case which he saw in the Presbyterian Hospital. The patient had had an attack of typhoid fever ten years previously. Dr. Bevan operated and found a number of gallstones; also a suppurative cholangitis. A test was made and the Widal reaction was very prompt.

He saw Dr. Fenger also examine a case in his clinic, which was supposed to be one of appendicitis, and diagnosed as such by two or three good surgeons. Dr. Fenger was inclined to think that the diagnosis was correct, but expressed some doubt to the class as to whether the case was really one of appendicitis or of gallstones. He opened in the region of the gall-bladder first. On reaching the gall-bladder, he readily discovered the gallstones, removed them, and the patient got well.

As regards the administration of olive oil, he had used it frequently with no results. In fact, in one case he believed it was the cause of death. The patient was 50 years of age, and had previously been operated on by the late Dr. Parkes for renal calculus. The calculus was removed, a fistula resulted, and did not close. Shortly after the operation for the removal of renal calculus, the woman developed symptoms of biliary calculi. She had frequent attacks of biliary colic, and the speaker was called to see her one night during one of the attacks. He called in a surgeon, as he thought the case was urgent, who advised immediate operation. The family were loth to consent to operation. A physician was called and placed the woman on the olive oil treatment. In less than four weeks afterwards the woman went into collapse and died. Postmortem examination disclosed a very large gallstone imbedded in the common duct, which had ulcerated its way through the outer and middle coats of the cystic artery. If the patient had been operated on at the time he thought she would have been relieved.

JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Dr William H. Welch in the Chair.

Splenomegaly.

Prof. Wm. Osler showed a case of splenomegaly associated with cirrhosis of the liver, in a young man who has been a beer-drinker. He has had occasional attacks of jaundice since early life. Such tumors are often removed for ovarian tumors. The three earliest cases of splenectomy were done by gynecologists. Several other cases were referred to by Dr. Osler, as 1, lasted eight or ten years, and patient recovered completely; 2, spleen was removed, and patient did well for more than a week, then had recurrence of his frequent attacks of hemorrhage, with fatal result; 3, had nearly bled to death on four or five occasions; died from uncontrollable hemorrhage a few minutes after being taken from the operating table.

Scurvy.

This was in a white man accompanied with subcutaneous hemorrhage of the thigh, which was in a scleremic or sclerotic condition. The patient had come in with hemorrhages, swollen gums and enlarged knee. On aspirating the latter a bloody fluid was obtained. There were remains of a purpuric rash. It is an unusual condition which has been described by Russian physicians. A good deal of scurvy comes into the hospital from the large number of foreign immigrants, especially Hungarians and Poles.

Cystitis—Peculiar Condition of Uterus in Pregnancy.

Dr. Howard A. Kelly spoke of drainage in bad cases of cystitis. Here attempts to wash out will be cut short on account of the pain. Dr. Kelly treats such cases by placing the patient in the knee-breast position and letting air into the bladder through the cystoscope. He then thrusts in a narrow-bladed, specially made knife, set at an angle with the handle, and draws it downward towards the urethra, leaving a free opening into the bladder for escape of urine. Dr. Kelly urged the importance of making topical examination of the bladder before commencing treatment in cases of apparent cystitis. He had had cases which had been treated elsewhere for a length of time for cystitis when on using the cystoscope a stone was seen, and in its removal the symptoms disappeared. He spoke also of peculiar cases of pregnancy which he does not understand. One part of the uterus softens down and the rest remains rigid; the softened part may bulge. In his case it was mostly towards the patient's right. The patient was the wife of a physician from Iowa. He was advised to let it alone and returned home, where his wife had a normal labor. In another case, the wife of an army surgeon, the abdomen was opened and the right upper horn of the uterus found to be softened. The patient later aborted per vias noturales. In a third case exactly the same condition was found. Dr. Kelly would call it "Apical pregnancy," and it is liable to be mistaken for extrauterine pregnancy.

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Dr. Smith, of Minneapolis, spoke of an epidemic of 600 cases in that city. Fifty cases had occurred before the existence of smallpox was acknowledged by the authorities. The fatality was small. Of the 6 cases in pregnant women, all aborted and died. Many who were vaccinated took vaccinia. Less than 2 per cent. showed a scar.

Dr. Osler said that the present widespread epidemic was evidently one of exceptional mildness, but it is a mistake to suppose that discrete epidemics are rare; Sydenham describes them.

Dr. Porter said the idea of an "attenuated" organism was not borne out by the facts, for example these cases of hemorrhagic, confluent and discrete form, all originated from the same case.

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The fifty-fifth annual meeting held at Waukesha, June 26, 27 and 28, 1901.

The president, Dr. J. F. Pritchard, of Manitowoc, in the chair.

Serotherapy.

Dr. J. F. Pember, of Janesville, said that the mortality in all cases of tetanus treated without tetanus antitoxin is 60 per cent., as against 30 per cent. for all cases treated with it. The serum treatment in cholera and plague is practically without data. The treatment of rabies by the Pasteur method results in an enormously lessened mortality.

The treatment of plague by serotherapy has not shown results warranting any conclusion. The antipneumonia serum promises much. No very useful results have been reached in the serum treatment of tuberculosis. Antispirochetic serum has shortened the disease some days in the treatment of relapsing fever. Serum treatment in malignant endocarditis promises much. The treatment of snake bites by antivenomous serum is largely in its experimental stage. In cases of streptococcus infection the serum treatment has shown some good results. But the antitoxin treatment of diphtheria has won for itself the right to be regarded as a specific. Bayeux's tables, based on an analysis of 200,000 cases, give 55 per cent. as the death-rate before the advent of antitoxin and 16 per cent. since its use, with not a single death due to the antitoxin. The American Pediatric Society's table shows that where antitoxin is injected the first day of the disease the mortality is 6.6 per cent., the second day 8.3, the third 12.9, the fourth 17, and the fifth 23.2 per cent. The writer made the bold statement that the piosonous dose of antitoxin has not been found and that in the near future physicians will adopt heroic measures in desperate cases and give enormously large doses.

Chorea.

Dr. H. B. Favill, of Chicago, read a paper on chorea, with special reference to its relationship with rheumatism and heart disease. He called attention to the fact that the problem was an obscure one. The word functional is frequently misused. It really is an expression of one of two views, either describing a reaction whose structural basis is unknown or as implying the possibility of resistance to morbid influence without permanent organic change. Endocarditis is really rheumatism and not a sequela of it, and is essentially the rheumatism of the young; the evidence is accumulating that rheumatism is a septic process. The probable conclusion is that endocarditis, chorea and arthritis are coördinate manifestations of diseased conditions peculiar to the young, in that order, and that an important element in the causation is infection.

Conjunctivitis, Keratitis and Iritis.

Dr. G. V. Mears, of Fond du Lac, read a paper on differential diagnosis and treatment of conjunctivitis, keratitis and iritis. He treated the matter from the standpoint of the general practitioner. Ophthalmia of the newborn especially must come under the treatment of the general practitioner and he should be able to make a differential diagnosis, but a good rule is when in doubt call a specialist, and in fact the general practitioner should not, unless compelled to do so, treat important affections of the eye.

Bright's Disease and Diabetes Mellitus.

Dr. A. J. Hodgson, of Waukesha, read a paper on clinical points in Bright's disease and diabetes mellitus. He suggested a bread made of 20 per cent. nut-meats with 80 per cent. pulverized bran, sweet milk, baking powder, a little butter and egg. Bake in the form of gems. The so-called gluten flour is usually a fraud. It is only a cheap quality of flour which the mills are glad to get rid of at any price. Drugs are of little benefit. Codein will not cure. As to Bright's disease, the point is to get the whole system in good order, aside from the kidneys. Then the kidneys will soon come into line. It is especially important to keep the urine bland, which may be accomplished by the use of proper waters.

Fractures of the Femur.

Dr. F. J. Ford, of Omro, read a paper on the subject of fractures of the middle and upper third of the femur. Results show that functionally useful limbs are not obtained in more than 16 per cent. of cases, while perfect results are almost never obtained.

Neurasthenia.

Dr. J. H. McBride, of Pasadena, California, read a paper on "Some points in the management of the neurasthenic." The writer emphasized the importance of the physician getting hold of the mentality of his patient and always bearing in mind that these patients are people who need to be recreated in character and habits of mind and body.

Dr. Harold N. Moyer, of Chicago, said that hysteria, neurasthenia and hypochondria must not be confounded. Hypochondria is simply a delusion of illness while hysteria and neurasthenia are true diseases. In neurasthenia the fatigue symptom is crucial. It is very important to obtain mental control of the patient.

Reorganization.

The President in his Annual Address strongly urged the adoption of a new constitution of reorganization of the Society, following in line with the American Medical Association, and making the unit the county or local medical association. Under this plan, he said, the profession of the state presents an unbroken front which secures the greatest possible good to the community and makes quackery almost impossible. Under the plan presented the business of the Society is done by delegates who have charge of all matters except the scientific program. The members of this House of Delegates are ineligible to office, which puts the working part of the Association out of politics.

The President recommended for immediate action, 1, that three or more members of the Society be elected to act as a reorganization committee with full powers to make such changes as may be necessary in the constitution and by-laws of this Society, to conform to the plan of reorganization of the American Medical Association, their report to be ready for adoption at the next annual meeting of this Society. This recommendation was adopted. The reorganization committee named is as follows: Dr. J. F. Pritchard, of Manitowoc, Dr. W. B. Hill, of Milwaukee, and Dr. G. V. Mears, of Fond du Lac; 2, to elect delegates at this session to comply with the requirements for representation in the House of Delegates of the American Medical Association. This was done on the following Friday.

Nervous Diseases Following Injuries.

Dr. T. W. Nuzum, of Brodhead, presented the results of numerous experiments and concluded that slight injuries may produce severe spinal neuroses; that bodily injury is often less important than the fright element; that the majority of cases against great corporations are either feigned or exaggerated; that it is the duty of the expert witness to determine the existence of actual disease and its character, whether simply neurasthenia, severe hysteria, or organic lesion; that prognosis is usually good; that traumatic hysteria is intractable; that death may result where no physical lesion can be demonstrated; that traumatism may cause locomotor ataxia, epilepsy, apoplexy or paralysis agitans. Many of the cases, however, are due to suggestion.

Address in Medicine.

Dr. George M. Gould, of Philadelphia, delivered the annual address in medicine on the relation between sin and disease. He said that the unvarying concomitant of civilization was syphilization. It is claimed that 50 per cent. of wives' sterility is due to the husbands' gonorrhea. The licensing of evil is the lessening of evil. The annual drink bill of the United States is $1.050.000.000. The chief cause of crime is alcohol. The Royal Commission of Scotland attributes 72 per cent. of all crime directly or indirectly to alcohol. Prohibition breeds intemperance and is a hypocritical failure. In prohibition Vermont 3,000,000 doses of opium were demanded last year. The diseases caused in whole or in part by sin are in this order: syphilis, gonorrhea, alcoholism, abortion, tabes, insanity, hysteria, etc. Deaths caused in whole or in part by sin are found to be in this order: suicide, homicide, syphilis, gonorrhea, war, famine, pestilence alcoholism, etc. The horror of the crimes of the civilized soldiery in China is unknown. Thirty to forty per cent. of blindness is due to gonorrhea. Pneumonia is now killing more of our citizens than pulmonary tuberculosis. Nearly one-half of our mortality is due to disease of the lungs and 75 per cent. of this mortality is preventable. The average length of life in the 16th century was between 18 and 20 years. To-day it is over 40 years. In the last 20 years it has been lengthened by six years. Our toleration of anti-vaccinationists, Eddyism and Dowieism is to be paid for in millions of lives. Only one out of three thousand millionaires cares a fig for the prevention of disease. All honor to the one! Three billion dollars is the loss to the American people by preventable deaths each year. These figures warrant a demand for the establishment of a National Bureau of Health with a cabinet officer at its head. Such a bureau would easily save a thousand times its expense. Of course, it is the saving in life and suffering that is aimed at, but the figures are given to bring the matter home to your imaginations.

Causes of Sudden Death.

Dr. J. M. Beffel, of Milwaukee, said that the subject is important. Post-mortems should always be had and physicians should be careful in giving death certificates. The Doctor reviewed a statistical record of 100 cases of sudden death which occurred in Milwaukee during the past three years. Alcohol is a very important factor in sudden death. Forty-seven cases of the 100 were due to diseased condition of the vascular system. The kidneys were diseased in 22 cases, the lungs in 18, the liver in 9. There were three classes of sudden deaths due, 1, to diseases of the vascular system; 2, to general intoxication, such as diseases of the lungs, liver and kidneys, and 3, rupture of blood vessels within the brain.

Address in Surgery.

Dr. John B. Deaver, of Philadelphia, presented the annual address on the subject of "The atypical and unusual varieties of appendicitis and their management." He said, there are three cardinal symptoms of diagnosis, pain, tenderness and rigidity. Many cases are difficult of differential diagnosis, especially chronic cases, but the treatment of this disease is essentially operative, and the earlier the operation the better. Indigestion and biliousness are frequently attributable to appendicitis. The importance of a careful history of the case can not be exaggerated.

Cervical and Perineal Lacerations.

Dr. W. E. Ground, of West Superior, said that nearly all of the diseases occurring during labor follow in the wake of the midwife. Dr. Harris' operation is the coming one. Repair perineal lacerations immediately, except deep-seated lacerations of the cervix, where repair should be postponed for some time in order to avoid sepsis.

Acute Pain in Abdominal Disease.

Dr. A. J. Burgess, of Milwaukee, read a paper on the diagnostic importance and significance of acute pain in abdominal disease. He emphasized the importance of prompt action in cases where pain in the abdominal cavity is accompanied by rigidity, or even shock without rigidity. Dr. Burgess insisted on the importance of immediate operation where a man has all the symptoms of a grave abdominal disease.

Earache.

Dr. G. A. Heidner, of West Bend, read a paper on the subject of earache, its significance and remedy, discussing the most important causes of earache, viz., trouble in the external canal, and trouble behind the drum-head. He opposed paracentesis by the general practitioner in children under 10 years of age.

Cleft Palate.

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Dr. H. B. Favill, of Chicago, read a paper on chorea, with special reference to its relationship with rheumatism and heart disease. He called attention to the fact that the problem was an obscure one. The word functional is frequently misused. It really is an expression of one of two views, either describing a reaction whose structural basis is unknown or as implying the possibility of resistance to morbid influence without permanent organic change. Endocarditis is really rheumatism and not a sequela of it, and is essentially the rheumatism of the young; the evidence is accumulating that rheumatism is a septic process. The probable conclusion is that endocarditis, chorea and arthritis are coördinate manifestations of diseased conditions peculiar to the young, in that order, and that an important element in the causation is infection.

Conjunctivitis, Keratitis and Iritis.

Dr. G. V. Mears, of Fond du Lac, read a paper on differential diagnosis and treatment of conjunctivitis, keratitis and iritis. He treated the matter from the standpoint of the general practitioner. Ophthalmia of the newborn especially must come under the treatment of the general practitioner and he should be able to make a differential diagnosis, but a good rule is when in doubt call a specialist, and in fact the general practitioner should not, unless compelled to do so, treat important affections of the eye.

Bright's Disease and Diabetes Mellitus.

Dr. A. J. Hodgson, of Waukesha, read a paper on clinical points in Bright's disease and diabetes mellitus. He suggested a bread made of 20 per cent. nut-meats with 80 per cent. pulverized bran, sweet milk, baking powder, a little butter and egg. Bake in the form of gems. The so-called gluten flour is usually a fraud. It is only a cheap quality of flour which the mills are glad to get rid of at any price. Drugs are of little benefit. Codein will not cure. As to Bright's disease, the point is to get the whole system in good order, aside from the kidneys. Then the kidneys will soon come into line. It is especially important to keep the urine bland, which may be accomplished by the use of proper waters.

Fractures of the Femur.

Dr. F. J. Ford, of Omro, read a paper on the subject of fractures of the middle and upper third of the femur. Results show that functionally useful limbs are not obtained in more than 16 per cent. of cases, while perfect results are almost never obtained.

Neurasthenia.

Dr. J. H. McBride, of Pasadena, California, read a paper on "Some points in the management of the neurasthenic." The writer emphasized the importance of the physician getting hold of the mentality of his patient and always bearing in mind that these patients are people who need to be recreated in character and habits of mind and body.

Dr. Harold N. Moyer, of Chicago, said that hysteria, neurasthenia and hypochondria must not be confounded. Hypochondria is simply a delusion of illness while hysteria and neurasthenia are true diseases. In neurasthenia the fatigue symptom is crucial. It is very important to obtain mental control of the patient.

Reorganization.

The President in his Annual Address strongly urged the adoption of a new constitution of reorganization of the Society, following in line with the American Medical Association, and making the unit the county or local medical association. Under this plan, he said, the profession of the state presents an unbroken front which secures the greatest possible good to the community and makes quackery almost impossible. Under the plan presented the business of the Society is done by delegates who have charge of all matters except the scientific program. The members of this House of Delegates are ineligible to office, which puts the working part of the Association out of politics.

The President recommended for immediate action, 1, that three or more members of the Society be elected to act as a reorganization committee with full powers to make such changes as may be necessary in the constitution and by-laws of this Society, to conform to the plan of reorganization of the American Medical Association, their report to be ready for adoption at the next annual meeting of this Society. This recommendation was adopted. The reorganization committee named is as follows: Dr. J. F. Pritchard, of Manitowoc, Dr. W. B. Hill, of Milwaukee, and Dr. G. V. Mears, of Fond du Lac; 2, to elect delegates at this session to comply with the requirements for representation in the House of Delegates of the American Medical Association. This was done on the following Friday.

Nervous Diseases Following Injuries.

Dr. T. W. Nuzum, of Brodhead, presented the results of numerous experiments and concluded that slight injuries may produce severe spinal neuroses; that bodily injury is often less important than the fright element; that the majority of cases against great corporations are either feigned or exaggerated; that it is the duty of the expert witness to determine the existence of actual disease and its character, whether simply neurasthenia, severe hysteria, or organic lesion; that prognosis is usually good; that traumatic hysteria is intractable; that death may result where no physical lesion can be demonstrated; that traumatism may cause locomotor ataxia, epilepsy, apoplexy or paralysis agitans. Many of the cases, however, are due to suggestion.

Address in Medicine.

Dr. George M. Gould, of Philadelphia, delivered the annual address in medicine on the relation between sin and disease. He said that the unvarying concomitant of civilization was syphilization. It is claimed that 50 per cent. of wives' sterility is due to the husbands' gonorrhea. The licensing of evil is the lessening of evil. The annual drink bill of the United States is $1.059.000.000. The chief cause of crime is alcohol. The Royal Commission of Scotland attributes 72 per cent. of all crime directly or indirectly to alcohol. Prohibition breeds intemperance and is a hypocritical failure. In prohibition Vermont 3.000.000 doses of opium were demanded last year. The diseases caused in whole or in part by sin are in this order: syphilis, gonorrhea, alcoholism, abortion, tabes, insanity, hysteria, etc. Deaths caused in whole or in part by sin are found to be in this order: suicide, homicide, syphilis, gonorrhea, war, famine, pestilence alcoholism, etc. The horror of the crimes of the civilized soldiery in China is unknown. Thirty to forty per cent. of blindness is due to gonorrhea. Pneumonia is now killing more of our citizens than pulmonary tuberculosis. Nearly one-half of our mortality is due to disease of the lungs and 75 per cent. of this mortality is preventable. The average length of life in the 16th century was between 18 and 20 years. To-day it is over 40 years. In the last 20 years it has been lengthened by six years. Our toleration of anti-vaccinationists, Eddyism and Dowieism is to be paid for in millions of lives. Only one out of three thousand millionaires cares a fig for the prevention of disease. All honor to the one! Three billion dollars is the loss to the American people by preventable deaths each year. These figures warrant a demand for the establishment of a National Bureau of Health with a cabinet officer at its head. Such a bureau would easily save a thousand times its expense. Of course, it is the saving in life and suffering that is aimed at, but the figures are given to bring the matter home to your imaginations.

Causes of Sudden Death.

Dr. J. M. Beffel, of Milwaukee, said that the subject is important. Post-mortems should always be had and physicians should be careful in giving death certificates. The Doctor reviewed a statistical record of 100 cases of sudden death which occurred in Milwaukee during the past three years. Alcohol is a very important factor in sudden death. Forty-seven cases of the 100 were due to diseased condition of the vascular system. The kidneys were diseased in 22 cases, the lungs in 18, the liver in 9. There were three classes of sudden deaths due, 1, to diseases of the vascular system; 2, to general intoxication, such as diseases of the lungs, liver and kidneys, and 3, rupture of blood vessels within the brain.

Address in Surgery.

Dr. John B. Deaver, of Philadelphia, presented the annual address on the subject of "The atypical and unusual varieties of appendicitis and their management." He said, there are three cardinal symptoms of diagnosis, pain, tenderness and rigidity. Many cases are difficult of differential diagnosis, especially chronic cases, but the treatment of this disease is essentially operative, and the earlier the operation the better. Indigestion and biliousness are frequently attributable to appendicitis. The importance of a careful history of the case can not be exaggerated.

Cervical and Perineal Lacerations.

Dr. W. E. Ground, of West Superior, said that nearly all of the diseases occurring during labor follow in the wake of the midwife. Dr. Harris' operation is the coming one. Repair perineal lacerations immediately, except deep-seated lacerations of the cervix, where repair should be postponed for some time in order to avoid sepsis.

Acute Pain in Abdominal Disease.

Dr. A. J. Burgess, of Milwaukee, read a paper on the diagnostic importance and significance of acute pain in abdominal disease. He emphasized the importance of prompt action in cases where pain in the abdominal cavity is accompanied by rigidity, or even shock without rigidity. Dr. Burgess insisted on the importance of immediate operation where a man has all the symptoms of a grave abdominal disease.

Earache.

Dr. G. A. Heidner, of West Bend, read a paper on the subject of earache, its significance and remedy, discussing the most important causes of earache, viz., trouble in the external canal, and trouble behind the drum-head. He opposed paracentesis by the general practitioner in children under 10 years of age.

Cleft Palate.

Dr. George V. I. Brown, of Milwaukee, read a paper on the subject of surgical treatment of cleft palate and proposed what is in many respects a new operation, which he has successfully performed in many cases. He said the most important point in the diagnosis was to make a proper classification of cases. Dr. B. G. Maercklein of Milwaukee said that Dr. Garretson of Philadelphia first called attention to the fact that the bones in infants were so soft that they could be strung into apposition.

Syphilis of the Nose and Throat.

Dr. Henry B. Hitz, of Milwaukee, urged that the profession do not neglect a careful and frequent examination of the nose and throat. If the patient complains of nasal discomfort, obstruction or discharge, or of any symptoms referable to the throat and vocal organs, find out the cause if possible. If after examination you are still in doubt as to the specific character of the lesion, put your patient on a rigorous specific treatment—preferably a mixed treatment—which will clear up your doubts in short order, and without the possible mutilating results of delay.

Commissions in Medicine.

Dr. Carl L. Feld, of Watertown, read a paper on commissions in medicine from a moral and medicolegal standpoint. It was stated in the discussion of the paper that there was very little trouble of the kind in Wisconsin. That the matter was gradually righting itself, and that the proper principle to apply was to determine whether or not there was collusion between the general practitioner and the specialist.

Milwaukee was chosen as the place of the next meeting. The officers for the ensuing year are as follows: President, W. H. Neilson of Milwaukee; first vice-president, A. J. Hodgson of Waukesha; second vice-president, L. H. Pelton of Waupaca; secretary, Charles S. Sheldon of Madison; treasurer, Sidney S. Hall of Ripon; censors, F. E. Walbridge of Milwaukee, H. Reineking of Sheboygan, and George M. Steele of Oshkosh.

Delegate to the council of the American Medical Association for three years, W. T. Sarles of Sparta; alternate, Herman Gasser of Platteville; for one year, J. R. Barnet of Neenah; alternate, Byron M. Caples, of Waukesha.

CINCINNATI ACADEMY OF MEDICINE.

Regular Meeting, held June 10, 1901.

The president, Dr. N. P. Dandridge, in the chair.

Use and Abuse of Digitalis.

Dr. Robert Ingram went fully into the discussion of the properties of the drug, its various active principles, and the therapeutic indications. He was followed by Dr. Frank Scheerer, who gave a detailed account of several cases illustrating the various organic valvular diseases which had been materially benefited by the judicious administration of digitalis.

Dr. L. A. Moloney said that while an interne in the Cincinnati Hospital, a patient had fallen suddenly to the floor. He happened to be in the ward at the time and on examination found the heart's action had almost ceased. He had immediately given a hypodermic injection of 1/30 grain of digitalin, and had repeated the dose in a few minutes. After the first injection there had been a slight fluttering of the heart, but after a few seconds the action of the heart was found to be more regular. Within half an hour after the last injection the patient was able to move about the ward. Recently he had had occasion to use digitalin on a patient afflicted with a severe diarrhea. The dose in this instance was 1/50 of a grain, and the result was all that could be desired.

Dr. William H. Muhlberg was inclined to think that digitalin was entirely inert, and gave an experiment in which he had used the drug on a rabbit with negative results; with the tincture of digitalis there resulted a marked increase of the heart's action and contraction of the peripheral vessels.

Dr. S. P. Kramer was inclined to think that this positive reaction with the tincture was due to the alcohol contained in the tincture.

Dr. Muhlberg promised to repeat the experiment and report to the Academy the week following. He made the following report at the regular meeting of the Academy, June 17: "I made the statement last Monday night that I had experimented with some specimens of digitalin and found them absolutely inert, while from a specimen of tincture of digitalis I obtained a distinct rise of blood pressure in a very short time. One of the gentlemen present, in a very able criticism, stated that he did not think that the results obtained from the tincture of digitalis were due to the digitalis, but to the alcohol in the preparation, for the reason that it required in the neighborhood of twenty-four hours to get the characteristic effects of the drug digitalis. I thought his criticism a very fair one and promised to repeat the experiment with digitalis and report later. I obtained some of Merck's digitalin and made a 1 per cent. solution. I then injected 10 gtt. of this solution and waited some thirty minutes, but did not obtain any reaction. I then injected some infusion of digitalis into the jugular vein and obtained a rise of blood-pressure during the first eight or ten beats of the heart immediately succeeding. On the tracing which I will pass around, you will see one line, which is the line of atmospheric pressure, the larger and more distinct line indicates the blood-pressure line. The heart beat was not markedly slowed until after twenty beats. I think the rise in blood-pressure is due to the effect of the drug upon the vasomotor system rather than due to the effect of the drug on the heart itself. The blood-pressure remained up in his experiment about thirty minutes. After killing the animal, I found a typical digitalis heart. The systole was a powerful one, and the heart beat very slowly. I am inclined to think with Dr. Kramer that digitalis does not act on the heart for some time after it is given, but the rise in blood-pressure occurs very shortly after the drug is given, this being due to the effect on the vasomotor system.

Dr. J. L. Cleveland thought that in many cases of heart disease, with congested livers and lungs, the results claimed for digitalis were due in great part to the judicious use of dietetic and hygienic measures. He called attention to the fact that digitalis is often abused and given as soon as a bruit is discovered, when there is really no indication for the exhibition of the drug whatsoever. He did not question the great value of the drug when compensation had been ruptured. He thought that digitalis should be used with great caution when there was a secondary kidney involvement, and especially where the heart was hypertrophied and the arterial tension high; under these circumstances the drug should be put off as long as possible, and when finally administered, should be given in conjunction with some drug as nitroglycerin, which has a tendency to dilate the peripheral vessels and thus lower arterial tone.

Dr. R. B. Hall testified as to the value of Merck's digitalin in heart-failure after abdominal sections, especially where the operation has to be performed on women the subjects of valvular disease of the heart. He wanted to insist that the dose should be as large as 1/20 to 1/15 of a grain and repeated every three or four hours.

Dr. G. A. Fackler thought that the discussion of digitalis should take more the line of personal experience, as at the present time every practitioner can testify as to its value in selected cases. Personally he thought that when compensation was ruptured, no matter what valve was affected, digitalis was indicated. He preferred a reliable tincture, given in doses of from 20 to 30 drops every two to four hours, as indicated by the clinical symptoms. He was no believer in the accumulative action of the drug, so-called, had never seen a case, and on inquiry among a number of his colleagues, had never heard of a case. He had no doubt that a poisonous action could be exerted if the drug were irrationally administered; but digitalis was not peculiar in that regard; all drugs would act in this matter.

Dr. Alfred Friedlander did not agree that the tincture was the only reliable preparation of digitalis. He had obtained good results from the digitalin of Merck and from the fluid extract of Squibb administered hypodermically in one minim doses.

Dr. E. W. Mitchell also testified as to the value of the fluid extract and digitalin. Some months ago he had had occasion to use as much as 1/5 of a grain of digitalin (Merck) in divided doses during the course of an hour's time with the happiest results. He was inclined to think that the infusion of digitalis made by a reliable house gave as satisfactory results as any.

Dr. W. E. Kiely said that as digitalin did not represent the active principle of digitalis, it could not be expected to give the same therapeutic results. He used for the most part a reliable tincture. He did not see why the fluid extract should be superior to the tincture, as the only difference between the two preparations was one of strength. The best results could be obtained from the tincture that is made from the infusion.

COLORADO STATE MEDICAL SOCIETY.

Thirty-first Annual Convention, held in Denver, June 18, 19, and 20, 1901.

Gonorrheal Rheumatism.

Dr. Hobart E. Warren emphasized the following points: Do not treat gonorrheal urethritis by irrigation; do not introduce an instrument into the urethra as long as a discharge or shreds are present. Gonorrheal rheumatism may occur without previous uro-genital infection. Definite points of tenderness about an inflamed joint are peculiar to gonorrheal arthritis. Administer anti-rheumatic remedies at the start; make early use of dry heat.

Mother's Milk.

Dr. Edward C. Hill said that the true test of mother's milk is a grain in weight, about one-half ounce daily, as a rule. Loss of weight as a stationary condition should be an indication for an inquiry into the composition of the milk.

Consideration for the Radical Treatment of Uterine Carcinoma.

Dr. W. A. Jayne has come to the conclusion that when the disease has progressed so far that absolute removal is improbable or problematical, it is much better to discard hysterectomy and resort to the cautery.

Dry Heat in the Treatment of Disease.

Dr. R. W. Corwin described the physiologic influence of dry heat, and related the history of ten cases treated by this method in the Hospital of the Colorado Iron and Fuel Company with beneficial effect. His conclusions are that in surgery it is of great value. He suggested its use in sprains, stiff and tubercular joints, acute nephritis, cramps due to plumbism, arthritis deformans, and acute synovitis.

Case of Typhoid Fever with Greatly Enlarged Liver, and Intestinal Hemorrhages.

Dr. Alfred Mann reported the above case, in which the edge of the liver could be palpated for more than two months after the cessation of the fever, and in which hemorrhages from the bowel occurred on the 4th, 5th, and 6th week of the disease.

National Jewish Hospital for Consumptives.

During the past eighteen months 350 applications for admission were made, of which 228 were examined, and 204 admitted. They are admitted for a term of six months, and no longer than one year. The cases are divided into incipient (25), first (42), second (82), and third (43) stages. Improved 125, unimproved 39; worse 17, died 23. The predominance of right-lung involvement was marked. The largest number were tailors. In 152 cases, the family history was negative. Hemorrhage was present in 98 cases, and spitting of blood in 23 cases; 121 patients had night sweats, in 64 of whom they ceased on coming to Colorado; 92 had never had any; 75 per cent. had fever. In 166 cases bacilli were found; absent in 33 cases; there was no report on the remainder.

Mental Disturbances in the Course of Cardiac Diseases.

Dr. Adolph Zederbaum, after a careful study of many cases in his own practice, and an exhaustive research into the literature of the subject, arrived at the following conclusion: 1, that the heart, in a number of women during pregnancy and the puerperium, is subject to hypertrophy, which may become permanent, and pathologically affect the valves, and 2, that latent cardiac diseases of rheumatic and other origin may first come to the front during pregnancy, or in after labor.

Treatment of Neuralgia with Castor Oil.

Dr. F. E. Waxham reported several cases of facial neuralgia treated successfully with large doses of castor oil. He administered 1 to 3 ounces three or four times daily. After the first two or three doses, it loses its cathartic effect. To make it palatable, he adds mucilage of acacia and lime water.

Bleeding in Radical Operation for Piles.

Dr. Will B. Davis thinks that thorough divulsion from anus to ampulla should be the preliminary step in all operations, and this will prevent post-operative hemorrhage by rendering the muscles incapable of contracting upon the veins, and the same procedure will immediately check a post-operative hemorrhage.

Typhoid Fever.

Dr. W. A. Kickland, of Fort Collins, made the following deduction from a study of "100 Cases of Typhoid Fever Seen in Private Practice During the Fall of 1900": There is a greater similarity in cases infected from a common source than in the same number of cases occurring sporadically; that a rigid milk diet is not absolutely essential to prevent relapse, nor to a low rate of mortality, and that routine use of intestinal antiseptics with hydrotherapy gives as good results as can be obtained from any form of treatment.

Some Experiences with Venesection.

Dr. H. B. Whitney made the following concluding statement: 1, conditions demanding venesection are usually of sudden onset; 2, such cases usually present not only cyanosis, but, also, the local signs of dilated right heart and pulmonary edema; 3, that the gradual heart failure of acute infection and chronic diseases can neither practically nor theoretically be shown to be a proper field for venesection.

Case of Talma's Operation for Ascites in Cirrhosis of Liver.

Dr. M. Ballin reported a case, 53 years old, saloon-keeper; 2 years ago dropsy of extremities; ascites in 1900. He was tapped repeatedly. The parietal peritoneum was greatly scarified with a knife in a semi-circle around the upper angle of the incision and then the omentum was sutured with four stitches to the scarified region. The ascites has not returned. There are about 28 cases reported in literature.

Esophagometer.

Dr. C. D. Spivak exhibited a device under the above name for measuring the length of the esophagus. It consists of a stomach tube, to the end of which is attached a whistle as long as the tube traverses the esophagus; blowing into the tube will produce no sound. As soon, however, as the whistle reaches the stomach, blowing into the tube will produce a whistling sound. The distance from the whistle to the incisor-teeth, minus the distance from the incisor-teeth to the uvula, will give the length of the esophagus.

Treatment of Typhoid Fever with Intra-Rectal Injection of Normal Salt Solution.

Dr. E. Stuver used cold normal salt solution by intrarectal injection in the recent epidemic in Fort Collins with excellent results. He uses a very cold solution, and when the fever is high, even ice-water.

Extra-Uterine Pregnancy.

Dr. O. J. Pfeiffer reported a case of extra-uterine pregnancy at the fimbriated end of the left tube, which recovered after the removal of the fetus. The fetus was only one-half inch long, although the pregnancy lasted two months. The sac is a remarkable symmetrical ovoidal sphere; its walls are about half an inch thick. The placental attachment is plainly shown.

An Outbreak of Pyemia, Suggesting Bubonic Plague.

Dr. J. N. Hall reported the histories of 13 cases which have occurred in Colorado during the early months of this year. If a single case occurs it would be called pyemia of cryptogenetic origin; if many such are seen, the name becomes a mockery. Of the 13 cases, 2 may be classed as multiple abscesses, with recovery; 3 proved fatal; 1 partial recovery, and 1 lost to sight. Four cases had enormous axillary abscesses, with unusual severity of constitutional symptoms; all recovered. One case had a single abscess, and several bed sores; it was fatal. All these cases were investigated by the State Board of Health, at the request of the attending physicians.

Pulmonary Tuberculosis in Grand Junction Indian School.

Dr. R. H. Bull reported 16 cases of tuberculosis that have occurred in the school since 1896, all of which improved as soon as they were returned to their respective reservations.

The Chest Pantograph.

Dr. C. B. Van Zant applied the pantograph—an instrument devised by Dr. W. S. Hall, of Chicago, for graphic recording of the contour of the chest—to the study of the following conditions: To accurately record the alterations in chest form, which are usually designated by the vague words "some depression," "deficient expansion," etc., progressive deformities of the chest following emphysema, pleurisy, fibroid phthisis, etc., congenital or unprogressive deformities like pigeon-breast, funnel breast, rachitis chest, and as a means of keeping track of many conditions beside those of the thorax, change of size and shape of face in acromegaly, of head in hydrocephalous, of neck in goiter, etc.

The X-Ray in Medicine, Surgery and Medical Jurisprudence.

Dr. G. H. Stover is of the opinion that skiagrams should not be introduced as evidence before a jury, because it is misleading; skiagrams never give an accurate image of the conditions as they actually exist; their meaning must be translated in connection with the findings of other and ordinary methods of examination.

The Physician in Relation to Dispensing of Medicine.

Dr. J. Tracy Melvin discussed the question whether we can be more certain in the results, more accurate in our dosage, more satisfactory to patients and ourselves by dispensing our remedies ourselves at the bedside than by sending our prescription to the pharmacist. In many of the country districts the physicians have been compelled by environment to adopt this plan, whether it is best or not, because of the long distance from any other source of supplies, but the question is: Should the practice be more general, and from choice, not necessity? He is in favor of the physician dispensing his own drugs, for the reasons that the drugs nowadays are put up in such a form that every physician can easily dispense them; the patient has more confidence in the remedy; the change in the drug does not attract attention, and the ability to change the dosage.

The Temperature, Pulse and Respiration in the Diagnosis and Prognosis of Certain Diseases of the Brain.

Dr. J. T. Eskridge, after a careful and exhaustive study of the subjects, makes the following conclusions: 1, a change in the character of respiration, rather than in its frequency, is sometimes one of the first symptoms of organic intra-cranial disease; 2, respiration, more frequent during sleep or unconsciousness, is strong evidence of organic disease of the brain; 3, apoplexy, due to hemorrhage, is attended with greater disturbances of the temperature of the body soon after the occurrence of the stroke than is the case when the apoplexy is due to thrombus or embolus. There will be a slight fall in the axillary temperature on the paralyzed side, and in 8 to 12 hours a slight rise on the same side; 4, in apoplexy, due to thrombus or embolus, there is no disturbance of temperature during the first two days; 5, if the temperature on the paralyzed side remains higher than on the opposite side for several weeks, it indicates softening or inflammation of the brain, and lends gravity to prognosis; 6, all cases of injuries to the head, in which the temperature does not reach normal or slightly above a few hours after the receipt of the trauma will likely prove fatal; 7, rapid, weak and intermittent or irregular pulse denotes great danger in traumatic cases; 8, an exceedingly slow (8 or 10 per minute) and intermittent respiration indicates a lesion at the base of the posterior fossa.

President's Address.

Dr. William P. Munn, the retiring President, in his annual address, referred to specialism, and said: There never was a greater field for the family physician than to-day. Specialism has its limitations, recognized only too well by those who practice the specialties. The specialists in cities the size of Denver we find overworked and under-paid specialists, who seek to right themselves by a return to general practice, either of surgery or medicine. The gynecologists now accept all kinds of surgery. The surgeons take obstetric and gynecologic cases. The lesson of all this is that specialism has its legitimate boundaries set by nature and the inherent condition of the people, and their customs; otherwise specialism can not survive.

CHICAGO PATHOLOGICAL SOCIETY.

Regular Meeting, held June 10, 1901.

President, Dr. L. Hektoen, in the chair.

Division of Nervous Cells.

Dr. Alice Hamilton presented a paper dealing with cell division in the central nervous system of the white rat before and after birth; the number and distribution of the mitoses, the period up to which they persist, and their character. Mitoses were found along the ventricular surfaces in the early stages of development, gradually ceasing here, and increasing in the outer layers, until at birth; almost all are in the outer layers. At birth mitoses are numerous and persist up to the end of the fourth day; beyond this period no examination was made. The dividing cells are of two kinds: 1, small, devoid of visible cell body, resembling cells of the neuroglia; 2, large, with abundant cytoplasm, round, pear-shaped or spindle-shaped. These are in the gray matter of the cord and brain and correspond in measurements with the multipolar and pyramidal cells.

In the later stages of development the offspring of the germinal cells become partially differentiated but without losing their power to divide. The large dividing cells are, then, immature nerve cells; the small are cells of the neuroglia. In the case of the white rat, these cells retain their power of division until after the fourth day of extra-uterine life.

Malignant Carbuncle of the Upper Lip, Followed by Pyemia.

Dr. W. B. Wherry related the following case: A barber, 23 years old, entered Prof. Bevan's service in the Presbyterian Hospital on Feb. 7, 1901, and died on Feb. 8, at 11:15 p. m.

About a week before his admission he extracted a "dead hair" from his upper lip. This was followed by redness of the lip and swelling, which rapidly extended to the side of the face and shoulder. He rapidly grew worse and died with all the characteristic symptoms of septico-pyemia. The post-mortem examination was held twelve hours after death by Professor Hektoen. The anatomical diagnosis is as follows: Acute, diffuse, purulent and necrotic staphylococcus inflammation of upper lip and adjacent parts of face; multiple abscesses and hemorrhagic pneumonic areas in lungs; double fibrinopurulent pleuritis; abscess in spleen; acute splenic swelling; cloudy swelling of kidneys and liver; persistent thymus.

Bacteriologically, a pure growth of the staphylococcus pyogenes aureus was isolated from the lip, heart's blood, pleural exudate, liver and spleen.

Histologically, the lip shows dense cellular infiltrations with foci of necrosis containing groups of cocci, which stain by Gram's method. The lung contains many pneumonic and hemorrhagic areas and mycotic emboli. The other organs show the characteristic changes of a severe infectious process. The dangers of this affection depend chiefly upon its location and the virulence of the infective agent; the prognosis is extremely grave on account of the liability to thrombosis and embolism. The treatment of the early stage, which has so far given the best results, is excision of the necrotic area and packing with iodoform gauze. After thrombosis and embolism have occurred, treatment at the present time seems to be hopeless.

The Distribution of Segmentation and Fragmentation in the Myocardium.

DR. W. B. WHERRY: Twenty hearts were carefully preserved and eighteen pieces were taken from each heart. In searching for changes, the divisions into simple segmentation, and degenerative fragmentation and segmentation, made by J. B. MacCallum, were kept in mind. Degenerative fragmentation and segmentation occurred twice in the left auricle. Segmentation was distributed in the following order of frequency: left papillary muscles, wall of left ventricle, right papillary muscles, posterior surface of apex, etc. The changes in the walls practically correspond to the changes in the papillary muscles.

"Diffuse" segmentation of both left papillary muscles, accompanied by diastasis and displacement of the segments, seems to indicate more or less general segmentation and fragmentation throughout the ventricles.

Cyst-Adenoma of Ovary.

DR. E. FRIEND: Patient 31 years old; married five years; never been pregnant; menstruation regular and painless; family history negative. About eight years ago severe pain developed in the region of the left ovary, but upon examination this was pronounced healthy. About one year ago a swelling appeared, extending from the symphysis pubis to the umbilicus, but this gave no pain until about a month ago. She then entered the hospital and at operation there was removed from the right ovary a small, multilocular cyst. The patient made an uninterrupted recovery and was discharged from the hospital yesterday.

Adenomas develop as a result of disturbance in the formation of Pflüger's tubes in the growing ovary. Cyst-adenomas are simply adenomas which have undergone cystic degeneration; they consist of long, round, tortuous cavities, separated from each other by connective tissue. These cavities may become obliterated entirely or partially by papilliform growths.

The present officers were re-elected for the coming year.

Medicolegal.

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An Outbreak of Pyemia, Suggesting Bubonic Plague.

Dr. J. N. Hall reported the histories of 13 cases which have occurred in Colorado during the early months of this year. If a single case occurs it would be called pyemia of cryptogenetic origin; if many such are seen, the name becomes a mockery. Of the 13 cases, 2 may be classed as multiple abscesses, with recovery; 3 proved fatal; 1 partial recovery, and 1 lost to sight. Four cases had enormous axillary abscesses, with unusual severity of constitutional symptoms; all recovered. One case had a single abscess, and several bed sores; it was fatal. All these cases were investigated by the State Board of Health, at the request of the attending physicians.

Pulmonary Tuberculosis in Grand Junction Indian School.

Dr. R. H. Bull reported 16 cases of tuberculosis that have occurred in the school since 1896, all of which improved as soon as they were returned to their respective reservations.

The Chest Pantograph.

Dr. C. B. Van Zant applied the pantograph—an instrument devised by Dr. W. S. Hall, of Chicago, for graphic recording of the contour of the chest—to the study of the following conditions: To accurately record the alterations in chest form, which are usually designated by the vague words "some depression," "deficient expansion," etc., progressive deformities of the chest following emphysema, pleurisy, fibroid phthisis, etc., congenital or unprogressive deformities like pigeon-breast, funnel breast, rachitis chest, and as a means of keeping track of many conditions beside those of the thorax, change of size and shape of face in acromegaly, of head in hydrocephalous, of neck in goiter, etc.

The X-Ray in Medicine, Surgery and Medical Jurisprudence.

Dr. G. H. Stover is of the opinion that skiagrams should not be introduced as evidence before a jury, because it is misleading; skiagrams never give an accurate image of the conditions as they actually exist; their meaning must be translated in connection with the findings of other and ordinary methods of examination.

The Physician in Relation to Dispensing of Medicine.

Dr. J. Tracy Melvin discussed the question whether we can be more certain in the results, more accurate in our dosage, more satisfactory to patients and ourselves by dispensing our remedies ourselves at the bedside than by sending our prescription to the pharmacist. In many of the country districts the physicians have been compelled by environment to adopt this plan, whether it is best or not, because of the long distance from any other source of supplies, but the question is: Should the practice be more general, and from choice, not necessity? He is in favor of the physician dispensing his own drugs, for the reasons that the drugs nowadays are put up in such a form that every physician can easily dispense them; the patient has more confidence in the remedy; the change in the drug does not attract attention, and the ability to change the dosage.

The Temperature, Pulse and Respiration in the Diagnosis and Prognosis of Certain Diseases of the Brain.

Dr. J. T. Eskridge, after a careful and exhaustive study of the subjects, makes the following conclusions: 1, a change in the character of respiration, rather than in its frequency, is sometimes one of the first symptoms of organic intra-cranial disease; 2, respiration, more frequent during sleep or unconsciousness, is strong evidence of organic disease of the brain; 3, apoplexy, due to hemorrhage, is attended with greater disturbances of the temperature of the body soon after the occurrence of the stroke than is the case when the apoplexy is due to thrombus or embolus. There will be a slight fall in the axillary temperature on the paralyzed side, and in 8 to 12 hours a slight rise on the same side; 4, in apoplexy, due to thrombus or embolus, there is no disturbance of temperature during the first two days; 5, if the temperature on the paralyzed side remains higher than on the opposite side for several weeks, it indicates softening or inflammation of the brain, and lends gravity to prognosis; 6, all cases of injuries to the head, in which the temperature does not reach normal or slightly above a few hours after the receipt of the trauma will likely prove fatal; 7, rapid, weak and intermittent or irregular pulse denotes great danger in traumatic cases; 8, an exceedingly slow (8 or 10 per minute) and intermittent respiration indicates a lesion at the base of the posterior fossa.

President's Address.

Dr. William P. Munn, the retiring President, in his annual address, referred to specialism, and said: There never was a greater field for the family physician than to-day. Specialism has its limitations, recognized only too well by those who practice the specialties. The specialists in cities the size of Denver we find overworked and under-paid specialists, who seek to right themselves by a return to general practice, either of surgery or medicine. The gynecologists now accept all kinds of surgery. The surgeons take obstetric and gynecologic cases. The lesson of all this is that specialism has its legitimate boundaries set by nature and the inherent condition of the people, and their customs; otherwise specialism can not survive.

CHICAGO PATHOLOGICAL SOCIETY.

Regular Meeting, held June 10, 1901.

President, Dr. L. Hektoen, in the chair.

Division of Nervous Cells.

Dr. Alice Hamilton presented a paper dealing with cell division in the central nervous system of the white rat before and after birth; the number and distribution of the mitoses, the period up to which they persist, and their character. Mitoses were found along the ventricular surfaces in the early stages of development, gradually ceasing here, and increasing in the outer layers, until at birth; almost all are in the outer layers. At birth mitoses are numerous and persist up to the end of the fourth day; beyond this period no examination was made. The dividing cells are of two kinds: 1, small, devoid of visible cell body, resembling cells of the neuroglia; 2, large, with abundant cytoplasm, round, pear-shaped or spindle-shaped. These are in the gray matter of the cord and brain and correspond in measurements with the multipolar and pyramidal cells.

In the later stages of development the offspring of the germinal cells become partially differentiated but without losing their power to divide. The large dividing cells are, then, immature nerve cells; the small are cells of the neuroglia. In the case of the white rat, these cells retain their power of division until after the fourth day of extra-uterine life.

Malignant Carbuncle of the Upper Lip, Followed by Pyemia.

Dr. W. B. Wherry related the following case: A barber, 23 years old, entered Prof. Bevan's service in the Presbyterian Hospital on Feb. 7, 1901, and died on Feb. 8, at 11:15 p. m.

About a week before his admission he extracted a "dead hair" from his upper lip. This was followed by redness of the lip and swelling, which rapidly extended to the side of the face and shoulder. He rapidly grew worse and died with all the characteristic symptoms of septico-pyemia. The postmortem examination was held twelve hours after death by Professor Hektoen. The anatomical diagnosis is as follows: Acute, diffuse, purulent and necrotic staphylococcus inflammation of upper lip and adjacent parts of face; multiple abscesses and hemorrhagic pneumonic areas in lungs; double fibrinopurulent pleuritis; abscess in spleen; acute splenic swelling; cloudy swelling of kidneys and liver; persistent thymus.

Bacteriologically, a pure growth of the staphylococcus pyogenes aureus was isolated from the lip, heart's blood, pleural exudate, liver and spleen.

Histologically, the lip shows dense cellular infiltrations with foci of necrosis containing groups of cocci, which stain by Gram's method. The lung contains many pneumonic and hemorrhagic areas and mycotic emboli. The other organs show the characteristic changes of a severe infectious process. The dangers of this affection depend chiefly upon its location and the virulence of the infective agent; the prognosis is extremely grave on account of the liability to thrombosis and embolism. The treatment of the early stage, which has so far given the best results, is excision of the necrotic area and packing with iodoform gauze. After thrombosis and embolism have occurred, treatment at the present time seems to be hopeless.

The Distribution of Segmentation and Fragmentation in the Myocardium.

Dr. W. B. Wherry: Twenty hearts were carefully preserved and eighteen pieces were taken from each heart. In searching for changes, the divisions into simple segmentation, and degenerative fragmentation and segmentation, made by J. B. MacCallum, were kept in mind. Degenerative fragmentation and segmentation occurred twice in the left auricle. Segmentation was distributed in the following order of frequency: left papillary muscles, wall of left ventricle, right papillary muscles, posterior surface of apex, etc. The changes in the walls practically correspond to the changes in the papillary muscles.

"Diffuse" segmentation of both left papillary muscles, accompanied by diastasis and displacement of the segments, seems to indicate more or less general segmentation and fragmentation throughout the ventricles.

Cyst-Adenoma of Ovary.

Dr. E. Friend: Patient 31 years old; married five years; never been pregnant; menstruation regular and painless; family history negative. About eight years ago severe pain developed in the region of the left ovary, but upon examination this was pronounced healthy. About one year ago a swelling appeared, extending from the symphysis pubis to the umbilicus, but this gave no pain until about a month ago. She then entered the hospital and at operation there was removed from the right ovary a small, multilocular cyst. The patient made an uninterrupted recovery and was discharged from the hospital yesterday.

Adenomas develop as a result of disturbance in the formation of Pflüger's tubes in the growing ovary. Cyst-adenomas are simply adenomas which have undergone cystic degeneration; they consist of long, round, tortuous cavities, separated from each other by connective tissue. These cavities may become obliterated entirely or partially by papilliform growths.

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To carry out the second part of the treatment some drug must be administered that will either kill the worm or narcotize it so that it will release its hold upon the wall of the intestine and aid in its expulsion. There are a great many preparations recommended, but few of them are efficient. The one preparation most to be relied upon is the male fern, administered as follows:

℞.	Oleoresinæ aspidii	ʒi

M. Ft. capsulæ No. vi. Sig.: Take in keratin coated capsules at intervals of ten minutes, beginning early in the morning.

Previous to its administration the patient should be instructed to remain in bed in order to guard against vomiting. One hour after the last capsule has been taken, a brisk cathartic should be administered. Magnesium sulphate is regarded as preferable to oleum ricini, as the oil is said to increase the absorption of the male fern, which, of course, should be avoided on account of danger of producing toxic effects.

Treatment of the Umbilical Cord.

Dr. A. H. Longstreet, of Brooklyn, states in the *New York Med. Jour.*, that if there should be some inflammation or irritation of the umbilicus either before or after the cord drops, or if the parts keep moist, to apply the following:

℞.	Pulv. acidi salicylici	ʒi	4|
	Amyli	℥i	32|

M. *Bathe the part and dry thoroughly and apply as a dusting powder.*

Diarrhea in Children.

The following is recommended by Hirsch, in Pediatrics:

℞.	Argenti nitratis	gr. i	|06
	Sacchari albi	ʒii	8|
	Aq. destil.	℥ii	64|

M. Ft. mistura. Sig.: One teaspoonful every two hours for newly-weaned infants.

Treatment of Glaucoma.

Dr. Wicherkiewicz, as noted in *Med. Age*, recommends the following very highly in the treatment of acute as well as chronic glaucoma:

R.	Eserinæ salicylatis	gr. 1/6	|01
	Pilocarpinæ muriatis	gr. iii	|20
	Cocainæ muriatis	gr. i	|06
	Aq. destil.	ʒiiss	10|

M. Sig.: One drop into the affected eye once a day, at bedtime.

The mydriatic action of the cocain is neutralized in this combination through the eserin and pilocarpin, and intraocular tension is diminished through the use of this collyrium. He states that in fresh and acute cases, the solution should be dropped into the eyes three times a day.

In chronic glaucoma where iridectomies have no effect in stopping the progress of the disease, he has seen marked improvement in vision as well as in the structure of the eye, following the use of these drops, applied once a day at bedtime.

Amyl Nitrite in Seasickness.

The following prescription containing amyl nitrite is recommended by Martindale:

℞.	Amyl nitritis	m. viii	|5
	Alcoholis (90 per cent.)	ʒi	4|
	Pulv. trogacanthæ	gr. iv	|25
	Aquæ destil.	℥ii	64|

M. Sig.: One to two teaspoonfuls at one dose.

Treatment of Suppurative Otitis Media.

N. G. Ward, of Philadelphia, in an article published in *Amer. Med.*, states that in acute cases of otitis media, he syringes the ear out with a solution containing one to three drops of formalin to the ounce. In the most obstinate cases and those with granulations, alcohol is added:

℞.	Formalin	gtt. v	|30
	Alcoholis (95 per cent.)	ʒii	8|
	Aquæ q. s. ad	℥i	32|

M. Sig.: The affected ear to be irrigated with a syringe.

Santonin in Treatment of Tabetic Pains.

Negro, as stated in the *British Medical Journal*, has used santonin in relieving the lightning pains of tabes dorsalis with good success. He gave, at the beginning, 5 grains every three hours until three doses were given and in subsequent attacks he gave 10 grains at a dose. He continued this treatment during the crisis only and found that the pain would gradually disappear, and ceased entirely after the second dose was given.

Sodium Bicarbonate in Vomiting of Pregnancy.

Monin, as stated in *Lyon Médical*, notes the resemblance of the symptoms which pregnant women present to those of hypersecretion, such as gastric pain, nausea and vomiting, excessive acidity, occurring in the morning and relieved by taking food into the stomach. He believes in both cases that the stomach is secreting continuously and not at the digestive periods alone. He states that good results have been obtained by administering sodium bicarbonate in 30-grain doses four or five times a day in capsule.

Treatment of Mosquito Bites.

Dr. A. Manquat states that the most successful treatment consists in the local use of formalin, tincture of iodin and alcohol. He uses the pure formalin or alcohol in one-half strength. The tincture of iodin is objectionable because of *the stain it leaves on the skin.*

As a prophylactic against mosquito bites the following combination is of service:

℞.	Olei picis liq.		|
	Olei olivæ, āā	ʒvi	24|
	Olei hedeomæ (pennyroyal)	℥ss	16|
	Spts. camphoræ	ʒiii	12|
	Glycerini	ʒiiss	10|
	Acidi carbolici	ʒi	4|

M. Sig.: Apply on retiring.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, June 29.

1 *Some Tropho-neuroses and Their Relations to Vascular Disease of the Extremities. B. Sachs and Alfred Wiener.
2 *The Freezing-Point of Urine; Its Determination and the Inferences which May Be Drawn from It. J. H. Huddleston.
3 A Preliminary Report upon a Case of Uncinariosis (Ankylostomiasis). Thomas A Claytor.
4 The Role of Infection and Intoxications in Diseases of the Spinal Cord. Alfred Gordon.

Medical News (N. Y.), June 29.

5 *The Importance of a Recognition of the Significance of Early Tuberculosis in Its Relation to Treatment. E. L. Trudeau.
6 A Study of Some Complications and Sequelæ of Typhoid Fever. (Continued.) H. A. Hare and H. R. M. Landis.
7 *Treatment of Diabetes Mellitus. Abraham Mayer.
8 *Cutaneous Manifestations in Diabetes. S. Sherwell.
9 *Diabetes in Surgery. Robert T. Morris.

New York Medical Journal, June 29.

10 Rabelais as a Physiologist; Reflections Suggested by His Description of the Production and Movements of the Blood, in 1546. Austin Flint.
11 *Notes on Ringworm. A. Ravogli.
12 Hyperacidity (Superacidity, Hyperchlorhydria, Superaciditas Chlorhydrica); A Clinical Study. (Concluded.) H. Illoway.
13 *Congenital Malformations of the Upper Extremity. Carl Beck.
14 *The Mental Diseases of Childhood. William B. Noyes.

American Medicine (Philadelphia), June 29.

15 *The Treatment of Abdominal Aortic Aneurysm by a Preliminary Exploratory Celiotomy and Peritoneal Exclusion of the Sac, Followed at a Later Sitting by Wiring and Electrolysis, with the Report of Two Hitherto Unpublished Cases. (Concluded.) Rudolph Matas.
16 Persistence of the Thyroglossal Duct. David Riesman.
17 Subtrochanteric Osteotomy for the Deformity Following Hip Disease. E. H. Bradford.
18 *The Hallucinations of Digitalis—Does Digitalis Cause Hallucinations, Delirium or Insanity under Certain Conditions? Harry Orville Hall.

19 The Treatment of Congenital Dislocation of the Hip-Joint. Leonard W. Ely.
20 Prevention of Disease Infection by Micro-organisms Through the Mouth and Nasal Cavities. Robert Reyburn.

Medical Record (N. Y.), June 29.

21 *Clinical Annotations on Five Cases of Right-side Abdominal Disease. A. A. Berg.
22 *Tonometric Examination in Chronic Diseases of the Heart. Theodor Schott.
23 *Chronic Gonorrhea and Post-Gonorrheal Urethritis—A Sketch of Their Modern Treatment. Ferd C. Valentine.
24 Tuberculous Mastitis. R. A. Giuliana.

Boston Medical and Surgical Journal, June 27.

25 *A Study of the Food Consumed and Digested by Four Members of the Harvard University Boat Crew in June, 1900. (Concluded.) W. I. Atwater and F. G. Benedict.
26 Some Forms of Intestinal Obstruction Due to Adhesions. A. T. Cabot.
27 *Catharsis in Abdominal Surgery. L. R. G. Crandon.
28 A Case of Measles Complicated by Appendicitis. Harold Williams.

St. Louis Medical Review, June 29.

29 Emergency Surgery in the Country. Edward W. Lee.

Cincinnati Lancet-Clinic, June 29.

30 *Pelvic Massage as an Aid in the Treatment of Gynecologic Lesions. Louise Southgate.
31 *Valves of the Rectum. E. W. Mitchell.
32 Akromegalia. T. L. Cornwell.

Virginia Medical Semi-Monthly (Richmond), June 7.

33 Importance and Difficulties of the Correct Diagnosis of Insanity in Its Medicolegal Aspects. J. T. Wilson.
34 Placenta Previa. Virginius Harrison.
35 The Use and Abuse of Ecbolics. J. Wesley Bovée.
36 Practical Results from Examination of the Stomach Contents. E. Guy Hopkins.
37 A Case of Addison's Disease, Treatment with Suprarenal Extract. W. B. Atkinson.

June 21.

38 *The Limitations of Surgery in the Treatment of Nervous and Mental Diseases. William B. Pritchard.
39 Sudden Death Six and One-half Days After Gastroenterostomy. I. S. Stone.
40 The Early Operation for Appendicitis from a Pathologic Standpoint. J. G. Carpenter.
41 *The Arrest of Progressive Hardness of Hearing, Tinnitus Aurium and Ear Vertigo. Charles H. Burnett.
42 A Clinical-Résumé of Typhoid Fever. George W. Gay, Jr.
43 Some Thoughts on Cystitis. C. N. Brown.

Pediatrics (N. Y.), June 15.

44 A Case of Mongolism. W. Winston Hall.
45 An Eruption Resembling Pemphigus Vegetans in an Infant E. A. Fischkin.
46 A Case of Acute Tubercular Peritonitis with Strangulation of the Appendix by Adhesions with the Ileum. Charles G Cumston.
47 Tubercular Disease of Right Hip and Left Knee. J. M. Krim
48 Report of a Case of Laryngeal Stenosis. I. A. Abt.

Northwestern Lancet, June 1.

49 Report of a Case of Cystic Kidneys. A. R. Brackett.
50 A Case of Meralgia Paresthetica: Sensory Disturbances involving Six of the Seven Cutaneous Branches of the Lumbar Plexus. Mary B. Damon.
51 *The Diagnosis and Treatment of Intestinal Obstruction. James H. Dunn.
52 *The Symptomatology in Acute Nephritis. George D. Head.

June 15.

53 Corneal Ulcer; Its Diagnosis and Treatment. J. H. James.
54 Puerperal Ecampsia. H. H. Critchfield.
55 *Adrenalin Hypodermically Injected to Prevent Hemorrhage During Operations, with Report of a Case. Frank C. Todd.
56 *The Differentiation Between Cancerous and Tuberculous Tissues. C. H. Hunter.
57 The Pantherapist and Neotherapeutics. C. H. Kermott.

Medical Age (Detroit, Mich.), June 10.

58 *Psychotherapeutics. Philo D. Patterson.
59 The Use of Adrenalin Solutions. Albert E. Bulson, Jr.

Fort Wayne Medical Journal-Magazine, June.

60 Anesthesia. Chas. O. Wiltfong.

Western Medical Review (Lincoln, Neb.), June 15.

61 President's Address, Nebraska State Medical Society. H. M. McClanahan.
62 *Traumatic Injuries of the Ureter. J. W. MacDonald.
63 *Etiology and Pathology of Surgical Infections of the Kidneys and of the Cystonephroses. M. L. Harris.
64 Surgical Infections and Cystic Enlargements of the Kidney—Their Symptomatology and Diagnosis. W. H. Allport.
65 *Treatment of Septic Infections of the Kidney and Cystonephroses. L. L. McArthur.

University of Pennsylvania Medical Bulletin (Philadelphia), June.

66 *The Topical Treatment of Focal and Jacksonian Epilepsy. J. William White.
67 Right-sided Cardiac Hydrothorax. Alfred Stengel.
68 Cerebellar Lesions without Cerebellar Symptoms. William G. Spiller, W. E. Robertson and W. S. Wadsworth.
69 A Case of Complete Unilateral Oculomotor Palsy. David Riesman.
70 Some Forms of Apparatus Used in the Course of Practical Instruction in Physiology in the University of Pennsylvania. Edward T. Reichert.
71 A Series of Twelve Articles on Medical Men Prominent in the Civil and Military Affairs of Revolutionary Times. Francis R. Packard.

American Gynecological and Obstetrical Journal (N. Y.), June.

72 *Cancer of Uterine Fundus. J. M. Baldy.
73 Some Remarks on the Cesarean Section with a Report of a Case for the Relative Indications. George M. Boyd.
74 The Pubescent Schoolgirl. Wm. Edgar Darnall.
75 *The Choice of Operation in Retrodisplacements of the Uterus. Frederic Coggeshall.
76 Tubal Abortion. Herman E. Hayd.
77 What Is the Significance of Cervical Lacerations? Some Points Connected with Their Treatment. Chauncey D. Palmer.
78 *Myomectomy of Nine Myomata During Pregnancy and Delivery at Term. John D. Emmet.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), May.

79 The Doctor in Public Life. Albert E. Carrier.
80 The Relation of Fermentation to Disease. Earnest L. Shurly.
81 Appendicitis, with Report of a Case Complicating Ovarian Degeneration. Alvah N. Collins.
82 Historical Sketch, Etiology and Pathology of Diabetes Mellitus. Moses A. Fechheimer.
83 Course and Treatment of Diabetes Mellitus. James E. Davis.
84 Recent Experience with Smallpox. Theodore Schmalzriedt.
85 A Periosteal Elevator. Emil Amberg.

Peoria Medical Journal, June.

86 What of Electricity? O. B. Will.
87 Sanitation. W. R. Allison.

American Journal of Medical Sciences (Philadelphia), July.

88 *Two Cases of Operation for Traumatic Epilepsy; in One of which the Lateral Ventricle was Widely Opened: in the Other, an Abscess of the Brain, Caused by a Portion of Bone Being Embedded in the Brain for Fourteen Months. Was Evacuated. W. W. Keen.
89 *Primary Tuberculosis of the Pericardium. David Riesman.
90 The Extension of Aortic Aneurysms into and Between the Walls of the Heart and Dissecting Aneurysms of the Heart. Ludvig Hektoen.
91 *A Periendothelioma of the Dura Mater Involving the Cranial Nerves. D. R. Brower and H. G. Wells.
92 *Gonorrheal Myositis. Martin W. Ware.
93 Double Ureter of the Right Kidney. Charles L. Scudder.
94 Bronchial Concretions. L. W. Atlee.
95 *Progressive Muscular Dystrophy, with the Report of an Autopsy. B. Sachs and Harlow Brooks.
96 The Malaria of the Tropics. Barton Lisle Wright.

Iowa Medical Journal (Des Moines), June 15.

97 Early Diagnosis of Cancer of the Uterus and Breast. D. C. Brockman.
98 Iowa State Association of Railroad Surgeons. G. G. Cottam.
99 Melancholia. Max E. Witte.
100 Puerperal Infection from a Surgical Standpoint. G. G. Cottam.
101 Some Thoughts on Emergency Surgery. G. G. Cottam.
102 New Findings in Ophthalmology. E. H. Hazen.

Illinois Medical Journal (Springfield), June.

103 President's Address, Illinois State Medical Society. Geo. N. Kreider.
104 The Duty of the State in Regard to Tuberculosis. George W. Webster.
105 Progress in Medicine. J. L. Spalding.

Journal of Eye, Ear and Throat Diseases (Baltimore, Md.), May-June.

106 Report of a Series of Cases of Mastoiditis, with Operations. J. William Watson.

Journal of Medicine and Science (Portland, Me.), June.

107 Lecture on the Tribulations of the Pharmacist. Joseph P. Remington.
108 *Two Unusual Cases in Surgery. W. P. Giddings.

Interstate Medical Journal (St. Louis, Mo.), June.

109 Clinical Lecture on Surgery. N. Senn.
110 Katatonia. George Boody.
111 Some of the Uses of Electricity in Gynecologic Practice. W. H. Walling.
112 Anemia. W. S. Lessenger.
113 Otomycosis. Robert M. Lapsley.

bifurcation, with gangrene of the lower extremities. 6. Danger of rupture of sac from sudden withdrawal of abdominal support and displacement of adherent organs in the course of the exploratory laparotomy. 7. Danger of mistaking a fusiform for a sacciform aneurysm. 8. Danger from emboli and thrombi following incomplete coagulation of the blood in the sac (a very rare and practically unknown occurrence in abdominal cases). 9. Danger of shock. 10. Danger of sepsis. In the presence of this formidable array of dangers he asks what are the conditions favorable to its successful application, and answers that as theoretically possible but clinically rare the following conditions may be enumerated: 1, the aneurysm should be saccular; 2, it should be unilocular; 3, it should be provided with fairly strong, resisting walls; 4, the patient should be young or middle aged, fairly healthy, and free from general endarteritis and atheroma; 5, the aneurysmal orifice communicating the sac with the lumen of the parent artery should be small; 6, the aneurysmal sac should spring from the lower, inframesenteric division of the artery, preferably between the origin of the superior mesenteric and the bifurcation; 7, if given off from the celiac region the orifice should be situated on the posterior or lateral wall of the aorta. He says in conclusion, after analyzing the question from every point of view, we are compelled to admit that very little advantage is gained from the use of the method and he would restrict recommendation of the method to a small group of comparatively favorable cases in which the aneurysms are confined to the inframesenteric portion of the aorta and then only after other safer methods have been tried and failed. In aneurysms of the upper part of the aorta he would regard the procedure a pure experiment. He would not recommend it then, even in the danger of death, unless by the urgent solicitation of the patient and with a full explanation of the chances he has.

18. **Digitalis.**—Having had his attention called to a case of acute delirium and mania apparently due to the use of digitalis, Hall looked up the literature and finds the subject treated in a monograph by Duroziez, who reports twenty cases. He asks for the reports of the observations of the profession of similar facts.

21. **Right-Side Abdominal Surgery.**—Berg gives the histories, with diagnosis of appendicitis, of a case of typhoid fever with intestinal perforation and recovery after suturing, and a case of purulent tubercular peritonitis operated upon by celiotomy, with recovery; a case of empyema of the gall-bladder with impactions in the cystic duct, cholecystotomy and recovery; a case of suppurative appendicitis complicated with large ovarian cyst and pyosalpinx, abdominal section, removal of appendix, cyst and pus tubes, with recovery; a case of lymphosarcoma of the intestine simulating appendicitis, laparotomy, with recovery from operation. All these cases had been diagnosed as appendicitis and in all the symptoms pointed to trouble in the right iliac fossa. He remarks that these illustrate the difficulties that are and may be encountered in establishing a diagnosis in disease of the right side of the abdomen. Pain over the classic McBurney's point is not by any means always appendiceal in origin, and he suggests that when diagnosing appendicitis the other organs in the abdominal cavity ought to be examined.

22. **Tonometric Examination in Heart Disease.**—Schott's article dwells on the importance of an examination of the blood-pressure as a guide to the therapeutics of heart disease and illustrates from his own experience the use and value of the tonometer. While this is an instrument that may be dispensed with by the general practitioner, the physician who is desirous of making a minute and careful examination must use it. He says it may be considered a serious symptom whenever in any case undergoing the balneologic and gymnastic treatment the blood pressure is lowered. He has no hesitation in saying that when the tonometric figure as low as 65 or 60 mm. of mercury is found, therapy is of little avail and the bath and exercise treatment are both contraindicated. He believes that further careful experience with the Gaertner tonometer will fully confirm the statements and facts here given.

23. **Chronic Gonorrhea.**—The methods of treating chronic gonorrhea and post-gonorrheal urethritis are described by Valentine, who speaks particularly of certain points, such as the degree of dilatation and its duration, the need of asepsis, the question of involvement of the urethral adnexa, all the conditions that may tend to the chronicity of the gonococci, and the subject of marital reinfection. He offers the following conclusions: 1. That in these conditions, like all others, the cause of the perpetuation of the disease must be sought. 2. That no one remedy exists or can exist which will meet all the causative indications. 3. That the cause of a chronic urethral discharge is easily found, and when found can be successfully treated. 4. That the majority of chronic urethritides can be successfully treated by the general practitioner, and that the services of the specialist are required only in exceptional cases. 5. That the physician's duty is to warn all his patients of the dangers of gonorrhea to themselves, their family, and the public. 6. That no person who has had gonorrhea at any time should be allowed to marry until it is proven that he or she is free from the disease.

25. **Dietetic Treatment.**—The summary of Atwater and Benedict's article, concluded in this issue, shows that the four men under observation took a daily average of 154 grams of protein, 139 grams of fat, and 473 grams of carbohydrates, with a fuel value of 3925 calories daily per man. These figures correspond very closely with other observations of men under training and show that they take in their food about 50 per cent. more protein and 16 per cent. more energy than men at ordinary occupations in the United States whose dietaries have been studied. A comparison of the amount of nutriment in the food with those in the solid excreta shows the amounts actually available. These are nearly, but not quite the same, as the amount actually digested. It seems that the four athletes on an average digested their food just about as completely as the average man does. One notable feature of the experiment was found in the fact that the nitrogen excreted by the kidneys and intestines was considerably less in amount than the total nitrogen in the food. This means that there was considerable storage of nitrogen in the body, not far from 24 grams of protein per day, if no allowance is made for nitrogenous excretion in perspiration. Even after making a considerable allowance for excretion through the skin, it suggests the inquiry whether men who are storing nitrogen to such an extent are in the best physical condition and whether the amount of protein in the diet was the most appropriate for the purpose. The most important conclusion, however, to be derived from the experiments is, they say, that further and more detailed investigations are needed to show what diets are best for men under such muscular strain as that of oarsmen in training for races.

27. **Catharsis in Abdominal Surgery.**—The conclusions that seem to Crandon warranted from his study of the subject are: 1. In acute pelvic peritonitis both enemata and drugs by mouth should be used to produce catharsis before operation; drugs by mouth and oil enemata after operation. 2. In all acute inflammatory conditions of the abdomen where the alimentary tract is involved, the bowels should be moved by enemata alone, before and after operation, the enema of salts, turpentine and glycerin being the best.

30. **Pelvic Massage.**—After relating her experience with this method Southgate says: To sum up results obtained from my cases herein reported and others whose history I have not given you, pain and soreness in pelvis has been relieved; adhesions have been freed; exudates have been absorbed; large recent subinvolution was reduced; old chronically enlarged uteri have been rendered much smaller; enlarged fibrous ovaries have diminished slightly in size; retroverted, hypertrophied uteri, complicated with enlarged appendages and lax vaginal walls, reduced in size and retroversion somewhat improved; retroverted, prolapsed uterus without complications restored when electricity was added to the massage; severe dysmenorrhea of many years' standing, when caused by adherent ovary, cured.

31. **Rectal Valves.**—Mitchell reports a case where the existence of these valves was determined by proctoscopy, while the old methods had failed to reveal them.

38. **Surgery in Nervous Diseases.**—Pritchard doubts the value of surgery in functional nervous troubles and protests against the tendency of the surgeons to overstep their proper bounds in this direction. He concludes that in diseases of the brain, sinus phlebitis and traumatic hemorrhage, surgical procedure is not only legitimate, but is imperatively demanded. In brain tumors and in imbecility due to cranial deformity it has a legitimate field and while the results attained have not been specially gratifying, other remedial measures have resulted in no benefit whatever. Paralytic deformities, talipes, and contractions can be successfully treated by surgery alone. The loss of function may be completely relieved and useful action restored by muscle transplantation or section. Compression myelitis from trauma or other cause demands surgical treatment. Laminectomy is a legitimate procedure as demonstrated by results. In the treatment of neuroses, however, intrinsic or reflex, surgery is never a factor of any assured value. It may in exceptional cases prove a valuable adjuvant, but should never be relied upon alone. In non-reflex epilepsy the only excuse for surgical interference is that nothing else can be any worse. In reflex epilepsy and in other neuroses due to or aggravated by any ascertained reflex cause surgical removal of such reflex cause is legitimate, but the surgeon is wise who promises nothing. Among the sensory and motor neuroses surgery in the majority of instances seems a desperate experiment at best and often a crime. The domain of the surgeon in the treatment of epilepsy he believes is yet uncertain. Cautious, discriminating experimentation should constitute the guiding and dominant influence. While the ratio of failures to successes is large, he thinks that there is a future for surgery in this direction.

41. **Incudectomy.**—The mechanism in progressive hardness of hearing is given by Burnett, showing that the retraction of the incus is an important element and the operation of reducing the retractive force of the tensor tympani by incudectomy is recommended. The operation is made under general anesthesia and electric light with careful previous sterilization. When the membrane is intact the initial incision is made with a delicate knife, beginning close behind the short process of the malleus and following close behind the periphery backward and downward to a point below the line drawn horizontally through the umbo of the membrane. The flap thus made should be pushed inward toward the promontory by a probe armed with sterilized cotton. If there is no bleeding the incudostapedial joint is seen as soon as the flap of the membrane is pushed aside. If there be bleeding it must be mopped away. The incus being now in plain sight, it should be gently disarticulated from the stapes by drawing the former outward and downward by means of the incus hook-knife placed behind its long limb. Then the long limb of the incus should be grasped by special forceps and cautiously drawn down and outward into the auditory canal and then removed entirely from the ear. The operation is then finished. The meatus should be stopped with sterilized cotton and the ear let alone for twenty-four or forty-eight hours unless the meatus become moist with blood, when it should be changed. There should be no after-treatment in such cases. Sometimes slight reaction has occurred, but this is healed in a few days by simply mopping the ear with sterilized cotton and a solution of formalin (1 to 100), and he has never had any bad results. His experience with 78 cases has been good; the operation arrests and prevents progressive deafness and has a curative power in tinnitus and ear-vertigo.

51. **Intestinal Obstruction.**—The first duty in a case of intestinal obstruction is not to lose time in reaching a diagnosis or in instituting treatment. The essential phenomena are so striking to an observer as not to leave him long in doubt. In true ileus we have sudden and complete arrest of the fecal circulation indicated by sudden pain, vomiting, constipation, tympany, and stercoremia due to absorption through the paralyzed intestine, as shown by pale, drawn face, sunken eyes, a dark violet tinge to the skin, rapid, weak and small pulse, temperature normal at beginning, but later subnormal. The hopeless indication of these symptoms should be noted early, as the established conditions are unfavorable. Many physicians give cathartics, which Dunn condemns. Opium should not be given so as to mask the condition, though there is no other objection to its use. The most important thing where the obstruction is yet uncertain is the rational use of enteroclysis, using as much warm saline solution as possible with moderate pressure. This carefully conducted two or three times during the twenty-four or thirty-six hours will eliminate the existence of pseudo-ileus not requiring operation, and is not specially harmful in true ileus. The danger line for the patient should not be passed before operation is undertaken; ordinarily twenty-four to forty-eight hours should suffice. The various forms of internal strangulation should be watched for. These occur mostly in the middle third of life. Intussusception furnishes about one-third of the acute obstructions and usually occurs in patients under 10 years of age, and the discharge early of traces of blood in the stools is almost pathognomonic. Volvulus occurs in a large proportion of the cases of obstruction in the large intestines, hence, the diagnostic importance of inflation of the colon. In about 10 or 20 per cent. the nature and location of the obstruction remains more or less obscure to the best diagnostician, but the operator should not be very much embarrassed by this fact. Of the operations laparotomy is the one of choice, enterostomy being useful only in the last-resort cases. It is important that the operator should have everything at hand for any emergency and a definite system of handling pads, sponges, etc. Rapid work and the least possible rough handling of the intestine is important in advanced cases.

52. **Acute Nephritis.**—Head calls attention to definite types of symptoms of acute nephritis: 1. The gastrointestinal in which the attack is ushered in by vomiting, vomiting combined with diarrhea, or diarrhea alone. Over 50 per cent. of his 38 cases studied exhibit this type and he reports some of them as illustrations. 2. Next to this is the neurotic type, where the nervous system bears the brunt of the toxemia; the following symptoms occur; headache, sleeplessness, dyspnea, delirium, general or local convulsions and coma. About 28 per cent. of his cases were of this type. The two types just described are rarely seen associated. 3. This type is comprised of those cases characterized by the presence of edema, upon which so much stress has been laid by various writers. It is present in only 4 of his 38 cases. Edema is a much overestimated symptom of acute nephritis and has not the clinical importance attributed to it. Skin rashes are common enough as manifestations of nephritis to constitute the fourth type. In 3 cases of the 38 they were present, associated usually with edema. While as a rule striking symptoms are present, one sometimes meets with a case where there is no well-marked symptom to suggest the presence of the disease. This he calls the silent type of the disease, and he had about 5 of the 38 cases which he classed in this type. Other symptoms are enumerated, such as attacks of dizziness, abdominal pain, visual disturbances, epitaxis, etc.; these may occur but are not common and do not establish any special type of disease.

55. **Adrenalin.**—Todd reports a case in which adrenalin was injected to prevent hemorrhage in a case of operation for abscess in the neck, with the results that there was scarcely any bleeding, not enough to obscure the parts, though the patient in a previous operation had bled more than usual. The wound was packed with sterile gauze, but on removal from the neck this was unstained except where it had covered the cut surface, showing that there was no secondary hemorrhage. The adrenalin injections also had the effect of strengthening the heart, but otherwise there was no systemic disturbance.

56. **Tuberculosis.**—The object of Hunter's article is to call attention to a fundamental appearance of tubercular tissue not found anywhere else, viz., the presence of miliary tubercle. With this fact in mind one should not be left in doubt, he says,

in defining the tissue as to whether it is tubercular or cancerous.

58. **Psychotherapeutics.**—Patterson's article is an interesting historic résumé, and ends with a suggestion. He asks if the progress of the profession does not demand a judicious course in psychology as applied to the prevention, cause and cure of disease, to be added to the curriculum of medical instruction. Would it not be well to make a section of the state society (Michigan) devoted to the observation and study of the subject? Does not the dissemination of seeds of disease sent broadcast by mental suggestion in quack advertisements require local action for their prohibition?

62.—See abstract in The Journal, xxxvi, p. 127.

63.—Ibid., p. 127.

65.—Ibid., p. 127.

66.—Ibid., ¶ 26, p. 1893.

72.—See abstract in The Journal of June 8, p. 1650.

75. **Ureteral Retrodisplacements.**—The operations for the various conditions are enumerated by Coggeshall as follows: 1. The Alexander operation unmodified when there is retroversion or retroflexion without adhesions so that the uterus is replaced with perfect ease; if the woman is still of child-bearing age; if the uterus is not markedly enlarged by actual hyperplasia, and if the symptoms confirmed by bimanual examination with or without ether, indicate nothing wrong with the adnexa and no evidences of fibroids. 2. The Goldspohn operation under the following conditions: Whenever in performing the Alexander, the ligament is broken or difficult to find, and also in a large number of retroversions where we can not be positive about the non-implication of the adnexa or where we know that diseased tubes or ovaries need to be dealt with or adhesions to be broken up, always provided that the adnexa are not too large to be brought out through the enlarged ring. 3. Posterior colpotomy followed by an Alexander seems more convenient than the last mentioned operation, when there is a large degree of retroflexion with adhesions, or of diseased adnexa, but are not too large to be brought out through the ordinary posterior vaginal incision, and are also markedly prolapsed. It is also the best operation in cases of retrocession as the most important measure for the cure of this form of retrodisplacements is the free division of the utero-sacral ligaments. 4. Where it is necessary for any purpose to open the abdomen by median incision, Gilliam's operation is the most convenient method of fastening the uterus in place except in cases where the round ligaments have undergone much atrophy. It has an advantage over doubling the ligaments on themselves, in throwing the thin distal portion of the ligament out of use, and depending upon the stronger proximal portion for support. It also changes their direction so that they pull more directly in the line required. 5. Where the round ligaments are not available, which hardly ever happens except in women past the menopause, ventral fixation may be employed. It is hardly ever the operation of choice, but one is sometimes driven to it by necessity. 6. Vaginal hysterectomy is in Coggeshall's opinion perfectly legitimate as a remedy for retroversion, especially with prolapse in women past the menopause, where there is marked atrophy of the vaginal wall, especially if there is any degree of ptosis of the abdominal organs generally. 7. The repair of lacerations of the cervix and perineum with the addition of anterior colporrhaphy where indicated, is a simple and effective means of treating moderate degrees of retroversion, especially accompanied with some prolapse in women who are not certainly past child-bearing or even in older women where neither atrophy of the deeper layers or vagina, nor enteroptosis is present. He does not believe that the present state of abdominal surgery has yet advanced to the point of so reducing the risk of opening the peritoneum to justify it where there is a very probable cure by a less serious operation.

78. **Myomectomy in Pregnancy.**—Emmet reports a case where nine myomata were removed during pregnancy without interfering with the processes and with labor and delivery at term. He thinks the lesson learned from this case is that hysterectomy may and should be avoided in all cases of myomata complicating pregnancy. If pregnancy were continued after so prolonged and irritating an operation as nine-fold myomectomy he can not see why myomectomy can not always be practiced with equally careful technique.

88. **Traumatic Epilepsy.**—Keen's article gives two cases of traumatic epilepsy operated upon, in one of which there appears to have been relief from operation. In the first there was a curious condition in which the cortex and white substance external to the posterior part of the lateral ventricle was entirely absent. The patient's mental condition before and afterwards was entirely normal. Whether the case was one of acquired porencephaly or whether there was simply destruction of the cerebral tissue between the ventricle and the dura at the time of the accident or by absorption later the author is unable to say.

89. **Pericardial Tuberculosis.**—The conclusions of Riesman are as follows: 1. Tuberculosis of the pericardium is comparatively common. 2. It may be primary in the clinical, rarely in the pathologic sense; it may be secondary. 3. The primary form is either a hematogenic infection or is the result of extension by contiguity from some trivial focus. 4. The most frequent source of infection is a tubercular mediastinal or bronchial lymph gland. 5. The primary form is usually chronic, and appears as an obliterative pericarditis. 6. In a large percentage of cases there is an associated mediastinitis, with adhesions to pleura, sternum, and ribs. 7. The symptoms are those of adherent pericarditis or mediastino-pericarditis. 8. In every case of obliterative pericarditis of obscure etiology tuberculosis should be suspected, particularly if there are no endocardial murmurs. 9. The diagnosis of tuberculosis of the pericardium can usually be made only by excluding other causes, except in rare instances of successful animal inoculation with fluid obtained by tapping a pleural cavity. 10. Tubercular pericarditis may not present any characteristic features at autopsy; hence, microscopical examinations should be made in every case of adherent pericardium before tuberculosis is excluded. 11. In rare cases a clinically primary tubercular pericarditis is acute, the exudate being serofibrinous, hemorrhagic, or purulent.

91.—See abstract in The Journal, xxxvi, p. 343.

92. **Gonorrheal Myositis.**—Ware reports a case of gonorrheal myositis with microscopic findings and discusses the literature, giving in brief the hitherto reported cases. He thinks that some permanent stiffening may eventuate in this case from the residue of connective tissue. He also is inclined to believe that the gonococcal myositis is an extension from similar inflammation of adjoining joints or the bones. The treatment is largely expectant and measures to relieve the pain, and when the acuity has abated massage. If the pain be excessive he thinks incision will often be of use.

95. **Progressive Muscular Dystrophy.**—Sachs and Brooks' paper reports a long-observed case with autopsy. They have specially investigated the spinal cord and find no evidences of tract disease. The occasional degenerated fibers in the posterior columns are probably ascending central branches of the degenerated spinal ganglion cells. The changes in the ganglion cells do not appear to them sufficient or of such a character as might be expected were the process a secondary one following long-standing muscular atrophy. They are inclined to consider them due to nutritional disturbances particularly affecting the mass of the cord following extensive and rapidly progressing curvature of that portion of the spinal column. The chief inference from the negative findings in this case is that there is not any evidence showing the disease of the muscles was due to disease of the gray or other portions of the spinal cord. Erb's theory should be regarded as purely speculative. At present there seems to be sufficient warrant to maintain distinction between the amyotrophies and the myopathies. It is difficult, however, to account for the latter group, unless we are satisfied simply to state that there must be some defect in the embryonal structure not permitting of satisfactory development of the muscular system. Two questions are raised: 1. Are all these cases of progressive dystrophy primarily muscular

disease or may not some of them be local expressions of universal lipomatosis? The case of a boy recently examined suggests apparently the latter possibility. 2. Are these muscular dystrophies necessarily progressive? The authors are inclined to offer a little hope from recent experiences. Two cases are reported in which there has been improvement at least.

108. **Two Unusual Surgical Cases.**—The cases reported are one of myoma with fibroid ovarian tumor, the first with only very obscure symptoms and the latter with none at all. The second case was one of ovariotomy in an extreme condition at the time of the operation.

114.—See abstract in THE JOURNAL, xxxv, p. 1172.

116.—Ibid., p. 1105.

117.—Ibid., p. 1171.

122. **Diet and Nourishment.**—The assumption that modern culinary art and the average appetite are essentially wrong is held by Benedict to be more dangerous than acceptance of our habits of eating without question. As an illustration of this he notices the tendency to prescribe in typhoid a dietary which would be insufficient and intolerable in health, which is deficient in carbohydrates and iron, which is constipating, which is an excellent pabulum for the colon bacillus and undoubtedly for the typhoid bacillus also. It is deficient in chlorid and almost lacking in material to stimulate the appetite or the digestive secretion. If milk is unavailable the next most orthodox nutriment is animal broth rich in toxic extractives, with which the emunctories are already overcrowded. On the other hand, we are told that a cracker or a piece of bread or toast is apt to reach the ileum as solid food and inflict mechanical damage. While there is no question that the diet of typhoid should be limited as to frequency and amount we should remember that milk is more truly a solid food than most bread stuffs or cereals, and that it is possible to come somewhere near satisfying the patient's needs and his appetite without puncturing his bowel needlessly or creating a chemical disturbance that may lead to serious results. Others advise a diet of concentrated proteids with small amounts of food stuffs in gastric affections and a diet rich in fats and vegetables in intestinal disease; amylaceous dyspepsia, he thinks, is a bugbear rather over feared. Nearly all rigid dietaries neglect the need of the system for a large amount of glucose. Meats are served in too great abundance. In most digestive disorders he thinks it better to allow well-fried meat or boiled meat and rare roast beef. In all hyperchlorhydric cases salt is to be avoided and in the reverse condition it is indicated. To a large extent the individual appetite should be consulted and we should remember in the diet as to meat that most patients take too much. Most soft, starchy vegetables can be given in moderate amounts except in diabetic cases, though not the best food for fevers. Vegetables with hard seed coats should be avoided in gastric stagnation; bulky vegetables containing little nutriment and much cellulose should be avoided in nearly all cases coming under the physician's care. All foods except fruits, nuts and milk are better cooked than raw, and he would almost make an exception of milk. The worst sins of modern cooking are overseasoning and preparations of doughy masses. Cake, pastry, etc., should be withheld in sickness. Good ice cream is wholesome. Fruits and nuts are generally fairly aseptic and many absolutely antiseptic. Gelatin is a harmless basis for appetizing dishes and somewhat nourishing as a fuel food. One of the best desserts is candy, but it has lost much of its credit from the fact that it is eaten to excess between meals. Other foods would also produce bad results under similar treatment. If eaten regularly as a dessert at dinner probably few persons would care to eat more than 10 to 25 grams at once. As it is, it is not uncommon for a person to consume ten times this amount between two meals. Most persons coming under the physician's care need to be warned against tea and coffee; also chocolate usually is taken too strong. Water should be taken freely, with the ordinary diet at least a quart daily, allowing a glassful at each meal. It is better that water should be drunk between meals and in small quantities at a time. With gastric dilatation and atony no water should be taken at meals and one to two quarts be drunk in small quantities at intervals beginning one hour or so after a meal. Alcoholic liquors are seldom indicated, the milder malt liquors do more harm to the stomach and bile by causing fermentation; the strong liquors expend their energy rather on the nerve centers and glands. Alcohol should have no place in the dietary unless the patient has been so accustomed to it that it is deemed inexpedient to withdraw it immediately.

124. **Acetanilid.**—Earp calls attention to the popular indiscriminate use of acetanilid and its occasional dangers. Fifteen grains, he says, is considered the maximum dose, but he has seen harmful symptoms from one-half of this quantity. Some authors advise that 3 grains every hour may be given with safety. He has seen patients follow this rule and reach the danger line before 15 gr. had been given. Therefore, while the drug has its value and good results can be obtained, he wants to emphasize the fact that extreme caution should be observed in its use. It is probably never indicated when the patient is in an enfeebled condition, but often robust patients are just the ones that show its toxic effects. He has seen cases of poisoning in the use of 8 grains of acetanilid in individuals who had quite frequently used larger doses before. We have little knowledge of its deterioration, and the possibility of an impure product being sent out should be considered. It has been suggested that acetanilid may be to some extent mixed with acetoluid and sold as the genuine article. He has observed that people who are quiet during the time that several doses are taken are more likely to suffer from untoward effects than those who have taken it during vigorous exercise. If small doses are given and there is a decline in the temperature and signs of depression, a cardiac stimulant given early will overcome the unfavorable symptoms. Most of the cases of poisoning are those in which some person has purchased the drug and self-administered it. In the use of acetanilid he observes the following precautions: "Under no circumstances do I give it independent of other agents for the relief of pain; if used for this purpose, codein makes a good adjuvant and it should be guarded by some cardiac stimulant. In the general use of this remedy accidents occur, because intervals between the doses are too short and quite frequently the second dose is given when the first one has accomplished the desired result. I instruct the nurse in the physiological as well as in the therapeutic action, and the appropriate antidotal measures. Under these precautions this positive agent need not be abandoned, and favorable results may be obtained with a comparative degree of safety."

125. **Thiosinamin.**—This agent (chemically, allyl sulphocarbamid, allyl sulpho-urea, rhodalin), prepared from oil of mustard, is discussed by Robinson, who notices the literature and its various uses. It has been given by the mouth and in capsules in .5 to 3 grain doses and hypodermically in a 5 to 15 per cent. solution, doses varying from one to three or four grains. The injections are painful, but not excessively so. It is used in skin disorders, and he says: 1. The beneficial effects of thiosinamin in cicatrices, keloid, chronic glandular enlargements, and lupus are undoubted. 2. The drug seems to possess a beneficial influence in corneal opacities and in deafness due to sclerosis and adhesions. Further testimony is needed in this direction. 3. The drug is claimed to have given good results in urethral stricture and in gynecologic affections; but the number of reports is small and further evidence is necessary. 4. Taking into consideration the softening and resorbent effects of the drug, it seems rational to believe that it would produce good effects in such conditions as hypertrophied tonsils, hypertrophied turbinates, and in various hypertrophies of the skin. A cautious trial of the drug in the above conditions seems highly desirable. 5. From the latest reports it appears that when used locally—applied to or injected directly into the lesion—thiosinamin produces a stronger and more prompt impression than when administered internally.

161.—See abstract in THE JOURNAL, xxxv, p. 1046.

187.—See also ¶ 38.

in defining the tissue as to whether it is tubercular or cancerous.

58. **Psychotherapeutics.**—Patterson's article is an interesting historic résumé, and ends with a suggestion. He asks if the progress of the profession does not demand a judicious course in psychology as applied to the prevention, cause and cure of disease, to be added to the curriculum of medical instruction. Would it not be well to make a section of the state society (Michigan) devoted to the observation and study of the subject? Does not the dissemination of seeds of disease sent broadcast by mental suggestion in quack advertisements require local action for their prohibition?

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66.—Ibid., ¶ 26, p. 1893.

72.—See abstract in The Journal of June 8, p. 1650.

75. **Ureteral Retrodisplacements.**—The operations for the various conditions are enumerated by Coggeshall as follows: 1. The Alexander operation unmodified when there is retroversion or retroflexion without adhesions so that the uterus is replaced with perfect ease; if the woman is still of child-bearing age; if the uterus is not markedly enlarged by actual hyperplasia, and if the symptoms confirmed by bimanual examination with or without ether, indicate nothing wrong with the adnexa and no [illegible] of fibroids. 2. The Goldspohn operation under the [illegible]g conditions: Whenever in performing the Alexander, [illegible] ligament is broken or difficult to find, and also in a large number of retroversions where we can not be positive about the non-implication of the adnexa or where we know that diseased tubes or ovaries need to be dealt with or adhesions to be broken up, always provided that the adnexa are not too large to be brought out through the enlarged ring. 3. Posterior colpotomy followed by an Alexander seems more convenient than the last mentioned operation, when there is a large degree of retroflexion with adhesions, or of diseased adnexa, but are not too large to be brought out through the ordinary posterior vaginal incision, and are also markedly prolapsed. It is also the best operation in cases of retrocession as the most important measure for the cure of this form of retrodisplacements is the free division of the uretero-sacral ligaments. 4. Where it is necessary for any purpose to open the abdomen by median incision, Gilliam's operation is the most convenient method of fastening the uterus in place except in cases where the round ligaments have undergone much atrophy. It has an advantage over doubling the ligaments on themselves, in throwing the thin distal portion of the ligament out of use, and depending upon the stronger proximal portion for support. It also changes their direction so that they pull more directly in the line required. 5. Where the round ligaments are not available, which hardly ever happens except in women past the menopause, ventral fixation may be employed. It is hardly ever the operation of choice, but one is sometimes driven to it by necessity. 6. Vaginal hysterectomy is in Coggeshall's opinion perfectly legitimate as a remedy for retroversion, especially with prolapse in women past the menopause, where there is marked atrophy of the vaginal wall, especially if there is any degree of ptosis of the abdominal organs generally. 7. The repair of lacerations of the cervix and perineum with the addition of anterior colporrhaphy where indicated, is a simple and effective means of treating moderate degrees of retroversion, especially accompanied with some prolapse in women who are not certainly past child-bearing or even in older women where neither atrophy of the deeper layers or vagina, nor enteroptosis is present. He does not believe that the present state of abdominal surgery has yet advanced to the point of so reducing the risk of opening the peritoneum to justify it where there is a very probable cure by a less serious operation.

78. **Myomectomy in Pregnancy.**—Emmet reports a case where nine myomata were removed during pregnancy without interfering with the processes and with labor and delivery at term. He thinks the lesson learned from this case is that hysterectomy may and should be avoided in all cases of myomata complicating pregnancy. If pregnancy were continued after so prolonged and irritating an operation as nine-fold myomectomy he can not see why myomectomy can not always be practiced with equally careful technique.

88. **Traumatic Epilepsy.**—Keen's article gives two cases of traumatic epilepsy operated upon, in one of which there appears to have been relief from operation. In the first there was a curious condition in which the cortex and white substance external to the posterior part of the lateral ventricle was entirely absent. The patient's mental condition before and afterwards was entirely normal. Whether the case was one of acquired porencephaly or whether there was simply destruction of the cerebral tissue between the ventricle and the dura at the time of the accident or by absorption later the author is unable to say.

89. **Pericardial Tuberculosis.**—The conclusions of Riesman are as follows: 1. Tuberculosis of the pericardium is comparatively common. 2. It may be primary in the clinical, rarely in the pathologic sense; it may be secondary. 3. The primary form is either a hematogenic infection or is the result of extension by contiguity from some trivial focus. 4. The most frequent source of infection is a tubercular mediastinal or bronchial lymph gland. 5. The primary form is usually chronic, and appears as an obliterative pericarditis. 6. In a large percentage of cases there is an associated mediastinitis, with adhesions to pleura, sternum, and ribs. 7. The symptoms are those of adherent pericarditis or mediastino-pericarditis. 8. In every case of obliterative pericarditis of obscure etiology tuberculosis should be suspected, particularly if there are no endocardial murmurs. 9. The diagnosis of tuberculosis of the pericardium can usually be made only by excluding other causes, except in rare instances of successful animal inoculation with fluid obtained by tapping a pleural cavity. 10. Tubercular pericarditis may not present any characteristic features at autopsy; hence, microscopical examinations should be made in every case of adherent pericardium before tuberculosis is excluded. 11. In rare cases a clinically primary tubercular pericarditis is acute, the exudate being serofibrinous, hemorrhagic, or purulent.

91.—See abstract in The Journal, xxxvi, p. 343.

92. **Gonorrheal Myositis.**—Ware reports a case of gonorrheal myositis with microscopic findings and discusses the literature, giving in brief the hitherto reported cases. He thinks that some permanent stiffening may eventuate in this case from the residue of connective tissue. He also is inclined to believe that the gonococcal myositis is an extension from similar inflammation of adjoining joints or the bones. The treatment is largely expectant and measures to relieve the pain, and when the acuity has abated massage. If the pain be excessive he thinks incision will often be of use.

95. **Progressive Muscular Dystrophy.**—Sachs and Brooks' paper reports a long-observed case with autopsy. They have specially investigated the spinal cord and find no evidences of tract disease. The occasional degenerated fibers in the posterior columns are probably ascending central branches of the degenerated spinal ganglion cells. The changes in the ganglion cells do not appear to them sufficient or of such a character as might be expected were the process a secondary one following long-standing muscular atrophy. They are inclined to consider them due to nutritional disturbances particularly affecting the mass of the cord following extensive and rapidly progressing curvature of that portion of the spinal column. The chief inference from the negative findings in this case is that there is not any evidence showing the disease of the muscles was due to disease of the gray or other portions of the spinal cord. Erb's theory should be regarded as purely speculative. At present there seems to be sufficient warrant to maintain distinction between the amyotrophies and the myopathies. It is difficult, however, to account for the latter group, unless we are satisfied simply to state that there must be some defect in the embryonal structure not permitting of satisfactory development of the muscular system. Two questions are raised: 1. Are all these cases of progressive dystrophy primarily muscular

disease or may not some of them be local expressions of universal lipomatosis? The case of a boy recently examined suggests apparently the latter possibility. 2. Are these muscular dystrophies necessarily progressive? The authors are inclined to offer a little hope from recent experiences. Two cases are reported in which there has been improvement at least.

108. **Two Unusual Surgical Cases.**—The cases reported are one of myoma with fibroid ovarian tumor, the first with only very obscure symptoms and the latter with none at all. The second case was one of ovariotomy in an extreme condition at the time of the operation.

114.—See abstract in The Journal, xxxv, p. 1172.

116.—Ibid., p. 1105.

117.—Ibid., p. 1171.

122. **Diet and Nourishment.**—The assumption that modern culinary art and the average appetite are essentially wrong is held by Benedict to be more dangerous than acceptance of our habits of eating without question. As an illustration of this he notices the tendency to prescribe in typhoid a dietary which would be insufficient and intolerable in health, which is deficient in carbohydrates and iron, which is constipating, which is an excellent pabulum for the colon bacillus and undoubtedly for the typhoid bacillus also. It is deficient in chlorid and almost lacking in material to stimulate the appetite or the digestive secretion. If milk is unavailable the next most orthodox nutriment is animal broth rich in toxic extractives, with which the emunctories are already overcrowded. On the other hand, we are told that a cracker or a piece of bread or toast is apt to reach the ileum as solid food and inflict mechanical damage. While there is no question that the diet of typhoid should be limited as to frequency and amount we should remember that milk is more truly a solid food than most bread stuffs or cereals, and that it is possible to come somewhere near satisfying the patient's needs and his appetite without puncturing his bowel needlessly or creating a chemical disturbance that may lead to serious results. Others advise a diet of concentrated proteids with small amounts of food stuffs in gastric affections and a diet rich in fats and vegetables in intestinal disease; amylaceous dyspepsia, he thinks, is a bugbear rather over feared. Nearly all rigid dietaries neglect the need of the system for a large amount of glucose. Meats are served in too great abundance. In most digestive disorders he thinks it better to allow well-fried meat or boiled meat and rare roast beef. In all hyperchlorhydric cases salt is to be avoided and in the reverse condition it is indicated. To a large extent the individual appetite should be consulted and we should remember in the diet as to meat that most patients take too much. Most soft, starchy vegetables can be given in moderate amounts except in diabetic cases, though not the best food for fevers. Vegetables with hard seed coats should be avoided in gastric stagnation; bulky vegetables containing little nutriment and much cellulose should be avoided in nearly all cases coming under the physician's care. All foods except fruits, nuts and milk are better cooked than raw, and he would almost make an exception of milk. The worst sins of modern cooking are overseasoning and preparations of doughy masses. Cake, pastry, etc., should be withheld in sickness. Good ice cream is wholesome. Fruits and nuts are generally fairly aseptic and many absolutely antiseptic. Gelatin is a harmless basis for appetizing dishes and somewhat nourishing as a fuel food. One of the best desserts is candy, but it has lost much of its credit from the fact that it is eaten to excess between meals. Other foods would also produce bad results under similar treatment. If eaten regularly as a dessert at dinner probably few persons would care to eat more than 10 to 25 grams at once. As it is, it is not uncommon for a person to consume ten times this amount between two meals. Most persons coming under the physician's care need to be warned against tea and coffee; also chocolate usually is taken too strong. Water should be taken freely, with the ordinary diet at least a quart daily, allowing a glassful at each meal. It is better that water should be drunk between meals and in small quantities at a time. With gastric dilatation and atony no water should be taken at meals and one to two quarts be drunk in small quantities at intervals beginning one hour or so after a meal. Alcoholic liquors are seldom indicated, the milder malt liquors do more harm to the stomach and bile by causing fermentation; the strong liquors expend their energy rather on the nerve centers and glands. Alcohol should have no place in the dietary unless the patient has been so accustomed to it that it is deemed inexpedient to withdraw it immediately.

124. **Acetanilid.**—Earp calls attention to the popular indiscriminate use of acetanilid and its occasional dangers. Fifteen grains, he says, is considered the maximum dose, but he has seen harmful symptoms from one-half of this quantity. Some authors advise that 3 grains every hour may be given with safety. He has seen patients follow this rule and reach the danger line before 15 gr. had been given. Therefore, while the drug has its value and good results can be obtained, he wants to emphasize the fact that extreme caution should be observed in its use. It is probably never indicated when the patient is in an enfeebled condition, but often robust patients are just the ones that show its toxic effects. He has seen cases of poisoning in the use of 8 grains of acetanilid in individuals who had quite frequently used larger doses before. We have little knowledge of its deterioration, and the possibility of an impure product being sent out should be considered. It has been suggested that acetanilid may be to some extent mixed with acetolund and sold as the genuine article. He has observed that people who are quiet during the time that several doses are taken are more likely to suffer from untoward effects than those who have taken it during vigorous exercise. If small doses are given and there is a decline in the temperature and signs of depression, a cardiac stimulant given early will overcome the unfavorable symptoms. Most of the cases of poisoning are those in which some person has purchased the drug and self-administered it. In the use of acetanilid he observes the following precautions: "Under no circumstances do I give it independent of other agents for the relief of pain; if used for this purpose, codein makes a good adjuvant and it should be guarded by some cardiac stimulant. In the general use of this remedy accidents occur, because intervals between the doses are too short and quite frequently the second dose is given when the first one has accomplished the desired result. I instruct the nurse in the physiological as well as in the therapeutic action, and the appropriate antidotal measures. Under these precautions this positive agent need not be abandoned, and favorable results may be obtained with a comparative degree of safety.

125. **Thiosinamin.**—This agent (chemically, allyl sulphocarbamid, allyl sulpho-urea, rhodalin), prepared from oil of mustard, is discussed by Robinson, who notices the literature and its various uses. It has been given by the mouth and in capsules in .5 to 3 grain doses and hypodermically in a 5 to 15 per cent. solution, doses varying from one to three or four grains. The injections are painful, but not excessively so. It is used in skin disorders, and he says: 1. The beneficial effects of thiosinamin in cicatrices, keloid, chronic glandular enlargements, and lupus are undoubted. 2. The drug seems to possess a beneficial influence in corneal opacities and in deafness due to sclerosis and adhesions. Further testimony is needed in this direction. 3. The drug is claimed to have given good results in urethral stricture and in gynecologic affections; but the number of reports is small and further evidence is necessary. 4. Taking into consideration the softening and resorbent effects of the drug, it seems rational to believe that it would produce good effects in such conditions as hypertrophied tonsils, hypertrophied turbinates, and in various hypertrophies of the skin. A cautious trial of the drug in the above conditions seems highly desirable. 5. From the latest reports it appears that when used locally—applied to or injected directly into the lesion—thiosinamin produces a stronger and more prompt impression than when administered internally.

161.—See abstract in The Journal, xxxv, p. 1046.

187.—See also ¶ 38.

FOREIGN.

The Lancet, June 22.

On the Agglutinating Property of Blood-Serum in Cases of Plague. D. LOUIS CAIRNS.—After noticing the results of investigation of the agglutinating power of serum in plague cases, and the method employed to obtain the emulsion, which is too full to be given here, Cairns gives tables of the cases tested by him in the recent Glasgow epidemic, from which the following deductions appear fully warranted: 1. During the early days of the disease the reaction is not manifested, and consequently in rapidly fatal cases is probably never obtained. 2. Agglutinating properties first appear in the blood towards the close of the first week of illness (dilution of 1 in 10) These gradually increase in intensity up to the sixth week of illness, and are sometimes maintained at a high level as late as the eighth week. After this date, however, in the majority of cases, a gradual decline in the agglutinative power of the serum becomes apparent. The rates of increase and decrease of the reaction, generally speaking, are approximately equal; occasionally, however, the reaction wanes and disappears in a shorter period than that occupied between its appearance and point of maximum intensity. 3. In very severe cases ultimately proving fatal the reaction, though present, never reaches a high degree of intensity. In cases of almost equal severity, however, in which an early and rapid convalescence followed, the reaction was of more marked character. 4. In the mildest forms of plague a high degree of agglutinating power is probably never attained and in some it appears to be absent. Striker, in fact, states that the reaction never appears in this class of cases, but this is undoubtedly too sweeping an assertion, as an undoubted and characteristic reaction in a dilution of 1 in 25 was obtained in two such cases. 5. The reaction, as a rule, is most marked in those severe cases characterized by an early and favorable crisis, and in such cases it disappears very slowly, having been shown to be present as late as the fifth month after the primary illness. He remarks on certain mild cases that, notwithstanding the indisposition, was slight and the temperature sometimes only normal, they are as important as the severer ones as regards the danger to the community. In the severer forms of disease the possibility of serum diagnosis is much greater, but the diagnostic value of this agglutinative reaction is most important during and subsequent to the stage of convalescence when the possibility of bacteriologic diagnosis is more or less remote. In all cases, moreover, where there are glandular enlargements of dubious nature during the presence of plague epidemic the appearance of this reaction can not fail to be of signal value.

British Medical Journal, June 22.

Transplantation of Ureters into Rectum by an Extraperitoneal Method for Exstrophy of Bladder. GEORGE A. PETERS.—The case reported is that of a child aged 2 years and 7 months, suffering from ectopia vesicæ and procidentia recti. The procidentia was operated upon Dec. 7, 1896, incision being made in the median line above the imperfect umbilicus and consisted in making a longitudinal fold along the axis of the bowel, securing it by a double Lembert suture, thus narrowing its lumén and forming a fleshy column of the anterior fold of the rectum. This prevented the prolapse and recovery was satisfactory. The author reports it as a new operation and claims that it differs from any other in its essential features, consisting in narrowing the lumen of the lower dilated portion so as to make it practically impossible for the original apex of the protrusion to fall into it, and at the same time converting the part doubled in into a strong vertical fleshy column, the lower end of which is supported by the perineum, while the upper in turn supports the apex of the protrusion. He has operated since in another case also successfully. The exstrophy was treated also at another operation, nearly three years later. The sphincter was well stretched and the rectum previously cleared by a purge or enema of non-poisonous antiseptic solution. With the rectum blocked in its upper portion by a fair-sized sponge, a Jacques soft-rubber catheter, about No. 5 (English), was passed for about two inches into the ureter. The part containing the eye was cut off so that the urine entered the opening freely. A silk suture was then caught around the extreme end of the ureteral papilla, once or twice, and was also passed by a needle through the substance of the catheter so as to effectually prevent its slipping out, as it was the intention to retain these catheters in position at least forty-eight hours. Care was observed not to obstruct the lumen by passing the thread across it or by tying it too tightly. The distal end of the ureter with a goodly rosette of bladder muscle and mucous membrane was then dissected free, the catheter affording an excellent guide to its position. The idea was whatever virtue there might be in the peculiar termination of the ureter upon the inner surface of the bladder, should be retained when the transplantation was completed. As soon as the entire thickness of the bladder (here uncovered by peritoneum) had been snipped through with scissors, blunt dissection was employed and it was found not to be difficult to free the lower end of the ureter along the wall of the pelvis without injury to the peritoneum. Both of the ureters having been isolated, the whole of the bladder tissue was ablated from the perimeter where it merged into the skin, to the prostate where the vesiculæ seminales debouched. Great care was employed not to injure the peritoneum and in this case it caused no trouble. Next, the lateral aspects of the rectum, at a point below the reflection of the peritoneum, were exposed and the final step of the operation was the transplantation of the ureter into the lateral walls of the rectum, as follows: With a finger in the rectum the operator carefully determined the exact point where the implantation was to be made. It must be above the internal sphincter in the lateral and not in the anterior wall, to avoid kinking, and high enough to permit the ureter to project slightly, one-fourth or one-half inch, into the lumen of the bowel without stretching. As it is thus produced, it forms a papilla which, when pressed within the bowel, becomes converted into a valve, similar to that at the entrance of the bile duct and salivary ducts. This point having been decided upon, the operator or his assistant passes a slender forceps through the anus, presses them against it from the rectal aspect and lifts it across into the anterior wound. The wall of the bowel is now incised upon the projecting forceps, which are then forced gently through. By stretching and cutting, the wound is enlarged with great exactness, so as to exactly fit the ureter with its contained catheter and yet not squeeze them. The forceps are now opened, made to grasp the distal end of the catheter, and it is drawn into the bowel and out of the anus, the operator at the same time carefully directing the ureter through the slit and satisfying himself that its termination forms a papilla at least one-fourth of an inch long on the rectal mucous surface. In guiding the mouth of the ureter through the slit, the forceps may be passed back again beside the catheter and made to grasp the edge of the rosette of bladder tissue around the ureteral papilla. This process is repeated on the other side. The sponge plug is now withdrawn, care being taken not to disturb the catheters while so doing. No attempt was made to stitch the ureters in position. The catheters are left in position at least two or three days, or until they come away of themselves, which occurred in this case in about sixty hours. The author did not think it judicious to attempt any plastic operation for immediate closure of the abdominal wound. The whole area was surprisingly small and a moderately firm packing with iodoform gauze afforded efficient drainage and support. and acted as a splint to the ureters in their new position. Plastic closure may be done later when the implantation has healed securely and granulation been established. In this case the wound healed entirely by granulation and the scar was quite small and firm. It is now more than four years since the operation for procidentia recti was performed and about one and one-half years since the conversion of the rectum into the cloaca; the boy is in perfect health. There has not been the slightest tendency of return of the procidentia; there was no disturbance of function of the kidneys, and the mouths of the ureter could each be felt as a salient papilla as large as the tip of the little finger. There is no eczema or excoriation of anus or perineum, or any evidence that the rectum resents the presence of urine. The frequency of defecation depends largely upon the amount of fluid ingested, and the degree of activity of the boy. There is no evidence of reabsorption of urine from the rectum and the cloaca seems to act habitually as a bladder and only performs the defecation function at such times as a movement of the bowels should take place under normal conditions. For this extraperitoneal operation the following advantages are claimed: 1. There is absolutely no danger of peritonitis. 2. A prominent natural papilla is secured. This is the natural manner of debouchement of a duct upon a mucous surface, and affords the best possible protection against spread of infection up the ureters. 3. The ureters are further protected against infection or sloughing by lying undisturbed in their natural environment almost to the point of implantation. 4. The operation is easy of performance, and practically free from shock and exhaustion.

Annales de l'Institut Pasteur (Paris), May.

Endoglobular Hematozoa in Reptiles. P. L. Simond.—An endoglobular hematozoon of the hemameba species was found in a fresh-water turtle, and other species were discovered in crocodiles. They differ in their species in the same proportion as their hosts. It seems probable from the facts observed, that each given species of reptile has a certain single endoglobular parasite. Two cases of simultaneous infection by two parasites were noted in one instance, but it is possible that both parasites belonged to the same species and were merely in different stages of development.

Intracellular Digestion in the Sea Anemone. F. Mesnil.—A fish or crab taken in entire by the actinia or sea anemone, is destroyed by intracellular digestion. The digestive cell in these animals represents the embryonal stage of what, in the higher animals, constitutes two distinct systems—circulation and digestion. The arrangement of the digestive cells and their pseudopodic and plasmodial properties renders possible the paradoxical phenomenon of complete intracellular digestion.

Annales des Maladies des Org. Gen.-Urin. (Paris), May.

To Prevent Recurrence of Stones in the Bladder. Guyon.—The task of the surgeon in case of stone in the bladder is far from being restricted to the mere removal of the stone. The accompanying cystitis must be cured and the recurrence of stones prevented. Experience has demonstrated that the presence of calculi is no obstacle to the attenuation, and even the cure of a cystitis, if it is secondary; also, that the removal of the stones does not necessarily cure it. Local treatment is imperative both before and after the operation, especially when the cystitis is old and severe. Instillations are usually all that can be borne at first, followed by fractioned irrigations as soon as possible. Some cases allow the irrigations to be commenced from the start, followed by instillations. Calculi do not contraindicate a permanent sound. If the bladder is painful or hemorrhagic it may be necessary to evacuate the organ without leaving it empty, replacing each portion of urine withdrawn by the same amount of a tepid solution of boric acid. This topical treatment may relieve without anodynes, but sometimes a suppository or injection of an opium or antipyrin solution may be necessary. This treatment of the cystitis may require one or two weeks, the criteria being the number of mictions, the capacity of the bladder and the acidity of the urine. The urine becomes less infectious and it is possible to avoid febrile accidents. Silver nitrate is the best of all measures. It seems to have an elective action on pyogenic bacteria, and on the uri-bacillus liquefians, and is especially active when the urine ceases to be acid. Silver nitrate restores normal acidity to the urine, and this is the most certain means to prevent the recurrence of secondary calculi. Mineral substances become insoluble in an abnormal urine. Patients operated on should be cautioned not to neglect to test the reaction of their urine frequently with litmus paper, and resume the silver nitrate if the acidity is diminishing, and continue it until the urine turns the litmus paper red. This opposes a chemical barrier to the causes of the precipitation of the phosphates. General hygienic measures are of great importance, avoiding alcohol and rich food, alkaline water, and the tartrates of lime and magnesia, and a diet too abundant in vegetables. The patients should return once a week for repeated verification and successive evacuations.

Bulletin de la Soc. Med. des Hopitaux de Paris, May 30.

Gonorrheal Peritonitis in Little Girls. J. Comby.—In case of diffuse peritonitis in little girls, the external genitalia should always be carefully examined. If evidence of vulvovaginitis are discovered, this suggests the possibility of a gonorrheal origin. Comby had three cases under observation nearly at the same time, and was on the point of operating each, supposing that the diffuse peritonitis was the result of a perforating appendicitis, when the discovery of the gonorrheal lesions altered the diagnosis and with it the treatment. This form of peritonitis, in spite of its alarming onset, terminates in rapid recovery without surgical intervention.

Diagnosis of Nervous Affections from the Cerebrospinal Fluid. Babinski.—Examination of the cerebrospinal fluid in 120 persons resulted in finding the fluid normal in 60 cases, numbers of polynuclear cells in 1 case, and lymphocytes in great abundance in 56 cases, and scanty in 3. In the 56 persons who showed marked lymphocytosis, 50 were patients exhibiting symptoms which we associate with generalized syphilis—that is, tabes, general paralysis, Robertson's sign, isolated or accompanied by hemiplegia or paraplegia, or progressive muscular or pupil atrophy. In the remaining 6 cases there was some basis for the diagnosis of an affection of this kind, and it has developed since.

Intestinal Obstruction from Large Gall-Stone. Troisier.—An obese woman of 60, who had never had an attack of icterus, nor of hepatic colic, exhibited all the symptoms of acute intestinal obstruction for eight hours. Soon after, a gall-stone, measuring 7.5 cm. in circumference, was evacuated in the stools. It was 25 mm. thick and weighed 7 gm. dry. The size and the absence of icterus precluded the assumption of the passage of the stone through the bile duct. It must have entered the intestine through a cholecysto-duodenal fistula. No symptoms appeared during the three years since.

Echo Medical (Lille), May 26.

Sphenoidal Sinusitis. Gaudier.—A man applied for relief from an unbearable headache, which appeared every morning about 2 a. m., and lasted until about 5, when it ceased. The pain always started in the side of the right eye, ear and jaw, with subjective pulsation through the entire head. Two days before applying to Gaudier he had noticed a drop of pus when he blew his nose at 5 a. m., and the pains vanished about this time. He had no occasion to blow his nose nor expectorate at other times. In order to examine the sphenoidal sinus. the lumen of the meatus must be enlarged if necessary, and a droplet of pus will confirm the suspicion of sinusitis. Prompt cure follows the evacuation.

June 16.

The Country Physician in an Epidemic of Diphtheria. H. Delbecq.—The epidemic described was in a fishing hamlet where the lack of means and intelligence rendered local treatment impossible. Delbecq therefore renounced all attempts of the kind and relied solely upon serum treatment. All of the 19 cases recovered except 3, first seen in a moribund condition. The persons exposed, 65 in all, were injected with 5 to 10 c. c. as a preventive measure. The success of the serum treatment was remarkable. In one case a woman coughed up a perfect cast of the trachea and bronchi, to the fourth subdivision with seven ramifications on the left, and to the third with six ramifications on the right. The lumen of the tubular cast extended into the finest ramifications. The patient had been injected but once, receiving 20 c. c. of Roux's serum. Delbecq made a bacteriologic examination in 16 cases, placing the culture tube under the wing of a hen, with its feet tied together, in a box covered with a cloth, in order to maintain a constant temperature of 37 C. He did not order the school to be closed, but allowed it kept open after having the building disinfected, as he believed that the children, if allowed to play all the time, would be more liable to contract colds which would favor the evolution of diphtheria, than if they were kept regularly in school.

Journal de Medecine de Paris, June 9.

Role of the Lymphatic Glands in Infections and Diatheses. Courtois-Suffit.—Recent research, clinical and experimental, tends to establish that, from the physical, chemical and anatomic points of view, the lymphatic gland represents a true differentiated organ, intrusted with the task of defending the animal organism against both microbes and their toxins. It arrests the passage of bacteria and attenuates their virulence, while it is one of the places where the antitoxin is produced. The alterations in the glands are of two kinds: The first are manifestations of their functional activity, and are evidences of the struggle against the infection; the second are purely passive and are produced only secondarily, when the resistance of the ganglion has been overcome by the action of the infectious and toxic agents. A sound gland may, therefore, be hypertrophied from its excessive functional activity, or the increase in size may be due to infiltration with microbes or tuberculosis, or to cancerous degeneration. The simple hypertrophy of glands in the vicinity of a malignant neoplasm is a premalignant or paramalignant alteration. It is the reaction of the glands to the toxic products secreted by the neoplasm, and is for the purpose of producing unusual amounts of leucocytes, which pass into the lymph passages, and thence into the general circulation, explaining the leucocytosis observed in case of malignant disease. It precedes the appearance of specific cells in the ganglion. The glands in the vicinity of the neoplasm may also be infected by secondary pyogenic microbes or by tuberculosis. The relations between malignant disease and suppuration are well known, and the septic germs may be disseminated by the blood or lymph. Malignant disease passes through three phases—a local, a lymphatic, and a final, general circulation phase. According to Soupault and Labbe's latest statistics, the average number of cancerous *ganglia in* case of malignant disease of the mamma is 5, non-cancerous 2; of the stomach, liver and pancreas, cancerous 9, non-cancerous 5; of the peritoneum, cancerous 1, non-cancerous 2; of the tongue, cancerous 0, non-cancerous 4; of the tonsil, cancerous 4, non-cancerous 1; of the larynx and lungs, cancerous 2, non-cancerous 2; of the bladder and uterus, cancerous 0, non-cancerous 3. Youth favors metastases to the glands, owing to the greater activity of the lymphatic system during the first third of life. The nature of the tumor has also great influence on the early development and importance of secondary adenopathy. The participation of the glands in the cancerous process is more frequent and earlier in proportion as the tumor abounds more in epithelial cells and connective tissue is scanty. The remote adenopathy sometimes observed in case of malignant disease, usually affects the inguinal, axillary and supraclavicular glands. Tumefaction of the inguinal glands is too common for it to have any diagnostic value. The supraclavicular glands were affected in 21 out of 26 cases of malignant disease of the alimentary canal, and in 17 out of 37 cases of subdiaphragmatic visceral carcinoma. This frequently occurs also with carcinoma of the intestines, liver, kidneys, and suprarenal capsules.

June 16.

Action of Ozone on the Hemoglobin and Red Corpuscles. Oudin.—During the last twelve years Oudin has been making a special study of the influence of ozone on certain affections. He finds that it is unquestionably superior to all other therapeutic measures in its effect on the numbers and quality of the blood corpuscles. He describes three typical cases, showing the improvement obtained in six to eight weeks of ozone treatment. The first was a case of tuberculosis, with 7 per cent. oxyhemoglobin, 2,500,000 reds and weight 57 kilos. After six weeks of ozone treatment the proportion of oxyhemoglobin was 12 per cent., the number of reds 4,700,000, and the weight had increased by 5 kilos. The second case was that of a patient with chloroanemia, weighing 35 kilos, with 3,700,000 reds and 6 per cent. hemoglobin. After treatment the weight was 42 kilos, the number of reds 4,350,000, and the proportion of hemoglobin 10.5 per cent. The third patient was a victim of lead poisoning, with anemia and paralysis, weighing 50 kilos, with 5 per cent. oxyhemoglobin and 1,500,000 reds. *After two months of ozone treatment,* the weight had increased to 59 kilos, the reds to 5,200,000, and the proportion of oxyhemoglobin to 13 per cent. This effect on the oxyhemoglobin is perceptible even after the first inhalation.

Presse Medicale (Paris), June 15.

Therapeutic Puncture of the Sacral Canal—"The Epidural Method." F. Cathelin.—This new method of spinal injections is not meant for spinal cocainization only, but is advocated as a superior method of administering the majority of soluble medicines now administered by the mouth, rectum, or injected under the skin, or into a vein. The drug, in a weak solution, is introduced into the sacral canal and is thus brought at once into contact with the extensive plexus of veins which lines almost the entire bony structure. The absorption of the drug, therefore, proceeds simultaneously over a large surface, and its effect is felt to the remotest ramifications of the vascular system. For cocainization Cathelin injects on an average 4 cg. of a 1 per 100 or 200 solution of cocain. The method has already scored a number of brilliant successes in the palliative treatment of neuralgias in the legs, sciatica, lumbago, the fulgurant pains and gastric crises of tabes and also in intercostal neuralgia. It must also prove useful in cases of inoperable malignant disease of the rectum, of hemorrhoidal fissures, in painful delivery, and affections of the joints without effusion. It may be utilized for the administration of large doses of chloral in tetanus, or of the soluble mercurial salts, the benzoate or cyanid, for instance, in the severe cerebral or spinal form of tardy syphilis. The epidural injection is simpler and less dangerous than an intravenous injection, and never causes the local nodules, while its action is fully as effective, to say the least. The patient in the knee-chest position, the needle is inserted *obliquely between the lower tubercles of the sacrum, just* below the lowest median tubercle, where a triangular depression is evident. As the needle is introduced, it is slanted forward toward the anterior wall of the canal. There is a sensation as of forcing it through a taut membrane; when this is passed, the point of the needle is raised to follow the median line, and inserted for three to five centimeters, giving the sensation of passing through a soft substance. The fluid is then injected very slowly and the hole closed with a drop of collodion. The nerve roots are not affected by this procedure. The drug acts by osmosis through the extensive intraspinal venous network, which fills up the entire epidural space, as Cathelin has recently established by injecting colored wax and other substances under pressure.

June 19.

The Epidural Method. M. Brocard.—Sicard claims the *priority of this new method of spinal injections,* as he announced it at the meeting of the Société de Biologie, April 20, while Cathelin's communication was not presented until the *following week.* The three tubercles where the spinal canal is left exposed near the end of the sacrum, owing to the non-development of the laminæ and spinous processes, is the *point for the puncture, a little above the line uniting the* two tubercles. It can be approximately determined by measuring 7 cm. from the tip of the coccyx in the adult. The sacral *canal at this point has a transverse diameter of 15 to 18 mm.;* the antero-posterior diameter is 8 to 10 mm. The tip of the cone formed by the dura is 7 cm. above, out of reach of possible injury. The tolerance of the spinal canal outside the dura for non-toxic fluids is remarkably great, and experiments with stains injected in the cadaver showed that the fluid rapidly spreads through the entire epidural space in the dorsal and even cervical region. Cathelin's assumption that the drug acts by *absorption through the vast plexus of veins* in this space is probably correct, but there must be, besides this, some vasoconstriction phenomena, and also some effect on the nerve substance direct. *Chipault has the patient* assume the Trendelenburg position to facilitate the dissemination of the fluid, but Sicard prefers the lateral decubitus on the affected side, the legs flexed on the thighs drawn up to the pelvis, until the knees touch the chin.

The general direction of the puncture is that of the buttocks groove and Brocard and Chipault insert the needle for 4 to 5 cm. It hits against the coccyx if introduced too low, and against the roof of the sacral canal if too high, but in either case no damage is done. If the needle is held too upright it injures the periosteum of the floor. Nausea, fever, and headache never accompany this method of injection. The only symptoms observed were a sensation of heaviness in the limbs and very rarely formication, extending to the toes. Four or five hours after the injection a sensation as of a bruise is experienced in the lumbar region, gradually subsiding during the night. The analgesia obtained by spinal cocainization by this method never affected the skin, and it is, hence, exclusively medical analgesia. The relief of pain is immediate; it vanishes in two to five minutes after the introduction of the fluid. The analgesia obtained lasts for two or three days. The pain is then liable to reappear, but in the experiences to date, each recurrence is less violent and progressive improvement can thus be attained, amounting to actual cure. Colleville has cured three severe cases of sciatica by injecting a mixture of guaiacol 6 gm., orthoform .5 gm., and benzoic acid .365 gm. in almond oil q. s. to make 60 c. c. Chipault found the analgesia after cocainization by this method sufficient to allow resection of the coccyx.

The Cerebrospinal Fluid After Spinal Cocainization. Ravaut and Aubourg.—After spinal cocainization in Guinard's service, if the headache is intense a second puncture is made and a certain amount of cerebrospinal fluid allowed to escape. The relief is evident, and it was observed that whenever there was much headache the fluid spurted as if under high pressure, while it oozed a drop at a time when the headache was minimal. The turbidity of the fluid was also proportional to the amount of headache. The fluid of patients with severe headache contained large numbers of polynuclears, but a slight increase was noted in every case. Repeated lumbar puncture of the patients who exhibited most marked symptoms showed that the polynuclears gradually diminished in numbers and were replaced by lymphocytes and mononuclears, the fluid becoming normal again by the end of eight to twenty days. Repeated tests demonstrated that the meninges show no traces of the cocainization, resuming their normal condition in every respect after this interval. The reaction at first is evidently due to the direct toxic action of the cocain. Some of the patients were injected with the cocain dissolved in their own cerebrospinal fluid drawn just previous to the operation, but the symptoms were the same as when distilled water was the vehicle. The disappearance of all traces of the reaction testifies to the complete recuperation of the meninges and the ultimate harmlessness of spinal cocainization.

Deutsche Med. Wochenschrift (Berlin and Leipsic), June 20.

Treatment of Tuberculosis with Tuberculin. Goetsch.—It seems highly irrational to Goetsch to increase the fever with repeated injections of tuberculin when the patients are already febrile. He consequently never administers it when the patient has fever, and thus his patients are not exposed to the so-called dangers of tuberculin. He commences with very small doses and proceeds very slowly and cautiously, with the result that the nine patients thus treated during 1891 lost their bacilli and recovered their health. The three following years no patient was willing to take the tuberculin treatment owing to the general disfavor into which it had fallen. In 1895, however, tuberculous persons who had witnessed the complete recovery of his first nine patients, or been sent by them, applied for tuberculin treatment, and he was thus able to apply his principles on a large scale, the number of patients increasing each year, until he had 110 during 1900, a total of 224 in all. Of this number 37 are still under treatment, and of the remaining 175, 125 can be considered cured. The others were satisfied with the improvement attained, or for other reasons did not complete the cure. Tubercle bacilli were found in the sputum in 88 out of 224 who applied; 12 were rejected as being in too advanced stages of the disease. In 1 bacilli were discovered in suppurating cervical glands. The average length of treatment was 198 days, ranging from a minimum of 50 to 791. The average for patients with pulmonary tuberculosis was 143 days. The patients gained from 8 to 40 pounds in weight, averaging 19. Most of the cured cases return occasionally to allow oversight over their progress. A detailed record has been kept of each case, the weight, temperature morning, noon and evening, and the dose injected. The injections are made twice a week. During the first year Goetsch abstained from all adjuvants in order to test the tuberculin more thoroughly, but since convinced of its efficacy, he supplements it with the usual hygienic and other measures, but does not find that the course of treatment has been materially shortened thereby. As he never injects while the patient has fever, the temperature is reduced to normal by rest in bed and wet packs. If it is impossible to abolish the fever, tuberculin treatment is contra-indicated. No patient is submitted to this treatment whose case does not offer chances of success. Treatment is begun the third day, the dose corresponding to the general condition, usually .0001 gm. of old tuberculin. He has never succeeded in banishing the bacilli with the new tuberculin alone, although he has administered as much as 20 mg. at a time of T. R. in a number of cases. If this dose causes a febrile reaction, he reduces it by .00001 gm., and if this is not supported, he replaces the old by the new tuberculin, T. R., which is usually tolerated in the dose of .001 mg., and has proved its usefulness as a preliminary to the other. As soon as 1 mg. of T. R. is reached, then .0001 to .001 of old tuberculin is injected and tolerated without reaction. By gradually increasing the dose it is possible to raise it to 1 gm. of old tuberculin. The bacilli and cough have long disappeared by this time, the weight is normal, and the physical signs have subsided. But this result can be accomplished, Goetsch emphasizes, only by making it a principle never to increase the amount until the last dose was tolerated without a febrile reaction. He also, especially at the commencement of the treatment, insists that the patients must remain in bed forty-eight hours after the injection, to diminish the chances of a febrile reaction. The visible effect of the tuberculin in cutaneous tuberculosis is an intense redness and swelling of the affected points. In glandular tuberculosis the glands swell after each dose of the tuberculin, but subside again in two or three days. This same phenomenon is observed in affected tonsils, rendering their removal necessary in some cases. Patients with pulmonary tuberculosis frequently experience sensations as if a similar phenomenon were occurring in their lungs, and are able to locate the lesion. Hemoptysis seldom recurs and is less abundant. Fresh hemorrhages were never observed in any patient. The night sweats vanish during the third or fourth week of treatment. Four typical cases are described in full with nearly four pages of the tabulated temperature, dose, weight, and date, which it requires no knowledge of German to understand at a glance. The first is that of a teacher of 21, whose mother had died of tuberculosis: bacilli in sputum when admitted Jan. 4, 1898. He was dismissed cured April 4, with a gain of 34 pounds in weight and an additional gain of 15 pounds since. The first dose was .001 gm. and the last 1 gm. of old tuberculin. The temperature was occasionally 37.1 during the first twelve days. The second patient increased 21 pounds in weight during the treatment, which lasted five months. The table shows how the dose had to be frequently reduced as a febrile reaction occurred, the highest temperature being 38.8 C. These patients were examined recently by Professor Kast, who found them both perfectly sound. Koch supplements this communication by emphasizing the folly of administering tuberculin in cases of mixed infection, especially with suppurative processes. The specific action of the tuberculin is lost in such circumstances. He has always warned against too violent reaction, but, as he remarks, "Goetsch has gone beyond this and avoids any reaction at all, as far as possible, and yet he is able to reach very large doses. He has obtained remarkably good results by this method of procedure, as I recently convinced myself by a personal visit to his sanitarium. In order to incite other physicians to similar attempts he prepared the above communication for publication at my request."

[See editorial in last week's issue.]

Therapie der Gegenwart (Berlin), June.

A Cured Case of Aortic Insufficiency. H. Senator.—A cigarmaker, born in 1831, with a history of gonorrhea and syphilis at 20, was exhibited in clinics as a typical example of aortic insufficiency, in and after 1868, and the records contain several detailed descriptions of his symptoms, the classic picture of aortic insufficiency complicated by a tubercular lesion in one lung. Senator's astonishment may be imagined when, in 1871, he examined the man again to find not a single indication of aortic insufficiency, and the supposed tubercular focus in absolute *statu quo*. Repeated examinations convinced him that the valvular lesion must have healed, and that the tubercular focus must have been merely a syphilitic induration. The autopsy in April, 1901, confirmed this diagnosis. Only two semilunar valves were found at the orifice of the aorta, one evidently formed of two that had grown together. The valve was watertight. The pulmonary lesion was an induration with a patch of thickened pleura to correspond. Nothing was found to suggest an explanation of the fact observed during life that the systolic murmur had been loudest over the pulmonary orifice. The murmur must have originated at the orifice of the aorta in consequence of an eddy produced in the blood stream by the thickening and excrescences of the valves, but it was heard loudest over the pulmonary orifice for some inexplicable reason. The clinical records between 1877 and 1881 mentioned that the clinical picture had slightly altered. Two sounds were heard over the carotid, an indication that a diastolic sound was being developed at the aorta. Later it was noticed that two sounds were audible over the aorta, and that a murmur accompanied the second sound. Cured valvular lesions are rare and usually they are defects of the mitral valve, and always in young persons. In this case the man was 33 years old when it was first noted, and he survived thirty-seven years, living in poverty and never treated for the valvular affection. Treatment was always directed to the pulmonary lesion. No disturbances in compensation were noted at any time. His death was due to a circumscribed, comparatively recent tubercular lesion, causing hemoptysis. Senator was unable to find more than two cases of cured aortic insufficiency in the literature, in one the patient was 20, in the other, 37 years of age.

Treatment of Tetanus. E. Lexer.—Bergmann has lost confidence in serum treatment of tetanus and relies upon amputation as his chief support. Several fatal cases have been published recently in which all the conditions of early injection, etc., had been complied with. Lexer describes a case in which symptoms of tetanus appeared the sixth day after a compound fracture of the arm with an extensive phlegmon. Serum from Berne was injected into the veins and lateral ventricle, at the same time the arm was amputated close to the shoulder. The injections of serum were continued for several days, alternately subcutaneous, intravenous and cerebral. The temperature was continuously 40 C. An improvement for two days was followed by extremely severe symptoms, which gradually subsided in the course of two weeks and the patient had completely recovered by the end of four more.

Influence of Diet on Childbirth. W. Bokelmann.—In the *Centralblatt f. Gyn.*, 1889, 33, Prochownik recommended that women during the last few weeks of pregnancy confine themselves to antidiabetic diet, in order to check the development of fat in the fetus and render the bones more compressible. Bokelmann has followed these directions and proclaims, after an experience of eight years, that the advice is sound, and that women with contracted pelves, or who have previously given birth to exceptionally large children, or elderly primiparæ, are liable to derive the greatest benefit from this measure. Of course it is impossible to guarantee an easy birth in all cases, but the chances are decidedly in favor of it. He modifies Prochownik's directions to a certain extent, commencing the dieting gradually during the last third of the pregnancy and gradually growing stricter toward the last month. Water, soup, potatoes, sugar and beer are forbidden, although a moderate amount of carbonized water may be taken between meals. Sugar can be substituted by a small amount of saccharin. The woman may eat freely of meat, eggs, fish, green vegetables, cheese, a limited amount of bread, but butter *ad libitum*. As a beverage, 300 to 400 gm. of red or Mosel wine. The women usually feel so unusually well, subjectively, on this diet, that they bear its deprivations with pleasure. There are no unfavorable consequences for either mother or child. The children are certainly leaner, the bones of the head offer less resistance and artificial assistance is less frequently required. Another favorable effect is the more vigorous action of the uterine muscles; the diet is similar to that followed in the training of athletes, and it has a generally favorable action on the entire muscular system.

Oxygen in Therapeutics. F. Klemperer.—The benefits of the inhalation of oxygen are probably due to its direct action on the nerve centers. Michaelis has used about 150,000 liters of oxygen on his patients, and, with but one exception, has always noted a more or less marked subjective euphoria follow its use. The pulse and respiration become slower and more regular, and the same effect is observed in idiots and in comatose patients, excluding the effect of suggestion. Inhalations of oxygen have proved useful in intoxications and in dyspnea—it is an actual antidote to carbon dioxid—and, also, in intoxications from exhalations in mines and tunnels. It has been recommended for methemoglobin intoxication. Michaelis cured a case of morphin poisoning by this means; the patient being in profound coma and breathing only by artificial respiration. Spontaneous breathing followed the first inhalation of oxygen, and every time the respiration grew weak again, the oxygen restored it, strengthening the pulse and diminishing the cyanosis. Strychnin intoxication is also favorably affected by oxygen. After saturation of the blood with oxygen, it is impossible to induce convulsions in animals with strychnin or other reflex poisons. These inhalations have been advocated recently also for alcohol intoxication and in chloroform narcosis. Dyspnea is the second great indication for the inhalation of oxygen. Babinsky has reported the case of a girl of 13 suffocating from a piece of food in the trachea. The dyspnea and cyanosis were extreme, but the inhalation of oxygen raised the pulse and the lips became red. The transient restoration of circulation in such cases or with tracheal or laryngeal stenosis from compression by the thymus, may tide the patient past the danger point. The benefits of oxygen in bronchitis, emphysema and asthma are generally known, but in pneumonia or pleuritis, the compression or infiltration of the lung prevent the absorption of the oxygen. Cardiac asthma is favorably modified by the oxygen and likewise severe asthma caused by the compression of an aneurysm. Aside from intoxications and dyspnea, the benefits reported from the use of oxygen are probably due more or less to suggestion, as, for instance, the favorable effects in a few cases of chlorosis, nervous vomiting, the vomiting of pregnancy and uremic conditions. Anemia, leukemia and diabetes did not seem to be affected by the oxygen.

Calomel as a Diuretic. Klemperer.—On account of its marked diuretic properties, calomel is indicated in heart and lung affections and in dropsy, but for the same reason it is directly contraindicated in albuminuria and nephritis.

Therapeutic Inhalations on a Large Scale. Adam.—At the Flinsburg sanitarium the guests pass half an hour morning and evening in rooms in which the air is impregnated with salt solution, then with the essence of pine needles, and then with that of balsam fir, ten minutes in each. This is followed by a bath and a walk. The benefits are both local and general, and twenty years of experience have confirmed the efficacy of the inhalation of resinous fumes as a tonic measure. Adam suggests that shallow tanks filled with pine needles and fir twigs, with a stream of water trickling through them, on the principle of salt-evaporating pans, might prove a useful adjunct to city hospitals or spas.

Centralblatt f. Chirurgie (Leipsic), June 8.

Instrumental Application of Ligatures. M. Katzenstein.—In order to avoid all contact with the fingers in applying ligatures, Katzenstein has devised a set of instruments which apply a wire ring to the vessel and then crush it flat, thus mechanically occluding it. When he wishes to close the lumen of an intact vessel he applies an oval ring, 1, fig. 1, with a straight clasp in the center, like a buckle, which compresses the vessel firmly and completely. When a vessel has been severed, a ring is slipped over the stump and with a Péan forceps, the ring is crushed flat, thus holding the lumen tightly occluded, fig. 2. These rings are mounted in a grooved slide, fig. 3, with a spring, "c," and thumb-screw, "s," at one end, tapering at the other to fit into the jaws of the Péan forceps "a," which is provided with a spring on one side, "f" fig. 4, to hold the ring, "a," firmly until passed over the vessel stump, fig. 2. Open loops can be used instead of rings, with a suitable slide and the jaws of the Péan grooved to correspond to hold the loops. A year's experience with these instruments has confirmed their great value in asepsis and time-saving.

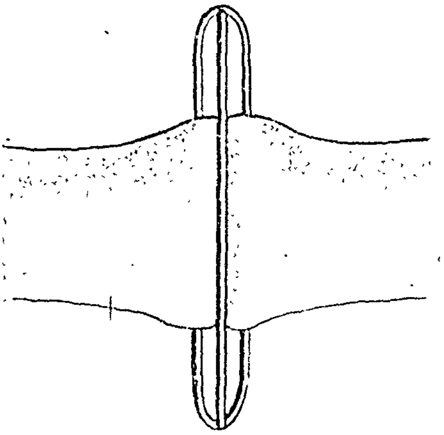

Figure 1.

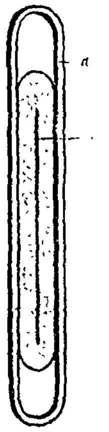

Figure 2.

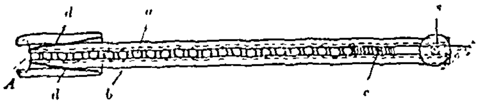

Figure 3.

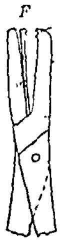

Figure 4.

Gazzeta Degli Ospedali (Milan), June 16.

Amyl Nitrite as Antidote for Spinal Cocainization. A. Cordero.—This communication advocates the administration of amyl nitrite to diminish the disturbances due to cocain anesthesia by the lumbar route. The pallor and cold extremities of persons submitting to cocain anesthesia indicate that the drug has a pronounced vasoconstricting action. Amyl nitrite has a marked vasodilating effect and Cordero conceived the idea that the nitrite would counteract the vasoconstriction. Schilling some time ago suggested amyl nitrite as an antidote for cocain poisoning. After the injection of the cocain, the patients inhale three of four drops of amyl nitrite on a fold of gauze. The face becomes red, the pupils contract, and this condition of slight congestion of the head is kept up by administering a few more drops of the nitrite, if necessary, to a maximum of twenty. Twenty-seven patients thus treated escaped the usual after-effects of cocain; there was no severe vomiting nor violent headache. Nine were apyretic and the temperature rose to 38 C. in only two. There was slight nausea in a few cases, but all the patients were completely restored the next day with good appetite. Cordero considers himself justified in recommending this procedure as a reliable means of preventing the disagreeable consequences to which spinal cocainization is liable. He injects 6 to 9 mg. of cocain in a .5 per cent. warm solution, which he finds sufficient for all operations below the umbilicus.

Vratch (St. Petersburg), May 25.

Syphilitic Endocarditis. M. Y. Breitmann.—From his own observation and reviewing the literature on the subject, Breitmann is convinced that there is no such thing as a primary inflammation of the heart valves and proliferation, of exclusively syphilitic origin, in the condylomatous stage. Syphilitic alterations in the endocardium occur only in the tertiary stage, and are merely gummatous processes propagated from the myocardium. They can, however, simulate the clinical picture of a primary cardiac defect.

Genu Recurvatum. A. Worobjeff.—On the foundation of ten personal cases, which are described in detail, with several illustrations, Worobjeff classifies this condition as neurotic or osteopathic in origin. To the neurotic class belong the paralytic and arthropathic varieties and to the osteopathic the genu recurvatum resulting from a fracture or rhachitis, osteomyelitis, tuberculosis or syphilis. Determination of the cause is important both from the theoretical and practical point of view.

Auto-Amputation of the Appendix. P. D. Weingrow.—In a case of suppurative peri-appendicitis, the appendix became spontaneously amputated and was evacuated through the rectum eleven days after the onset of the acute infection. It occurred in the midst of robust health, the patient a man of 37.

Revista Medica de Bogota, Colombia, No. 251.

Analogy Between Yellow Fever and Snake-bite. N. Osorio.—The close resemblance between yellow fever and the symptoms that follow the bite of a venomous serpent suggests that the toxins in each may be identical. The anatomic lesions certainly seem to be identical in each. Especially remarkable in this respect is the degeneration of the liver cells, although it is much more rapid after a snake-bite than in yellow fever, in which the toxins have first to be elaborated, while in the snake-bite they are introduced *en masse*, already manufactured. Osorio thinks that researches in the line of reciprocal immunization with these toxins might lead to important results.

Books Received.

Surgical Experiences in South Africa, 1899-1900, Being Mainly a Clinical Study of the Nature and Effects of Injuries Produced by Bullets of Small Caliber. By George Henry Makins, F.R.C.S., Surgeon to St. Thomas' Hospital, London. Cloth. Pp. 493. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

Selected Researches in Pathology. By Alex. Gunn Auld, M.D., M.R.C.P., Author of "The Pathological History of Bronchial Affections, Pneumonia and *Fibroid Pneumonia*." With Illustrations. Cloth. Pp. 153. Price, $2.10 net. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1901.

Diseases of the Thyroid Gland and Their Surgical Treatment. By James Berry, B.S., Lond., F.R.C.S., Surgeon to the Royal Free Hospital and Lecturer on Surgery at the London (Royal Free Hospital) School of Medicine for Women. Cloth. Pp. 367. Price, $4.00. Philadelphia: P. Blakiston's Son & Co. 1901.

Manuale di Chirurgia Operatoria. Dei Dottori R. Stecchi e A. Gardini. Con 118 Incisioni. Cloth. Pp. 321. Milano: Urico Hoepli. 1901.

Microbologia. Perche e Come Dorbiamo Diferderci dai Microbi, Malattie Infettive, Disinfeziono. Profilassi. Dott. Luciano Pizzini, Direttore del Laboratorio batteriologico del l'Ufficio d'Igiene di Bergamo. Cloth. Pp. 141. Milano: Ulrico Hoepli. 1901.

Igiene Della Bocca e dei Denti. Nozioni Elementari di Odontologia. Con 23 incisioni nel testo. Dott. Ludovico Couilliaux, Libero Docente di Odontoiatria nella R. Universita di Parma. Cloth. Pp. 298. Milano: Ulrico Hoepli. 1901.

Soccorsi D'Urgenza. Pel Dottore Carlo Calliano, Dirett. della Scuola Samaritana d'Italia alla Sede Centrale in Torino. Quinta Edizione Riveduta ed Ampliata, con 6 tavole illustrative. Cloth. Pp. 368. Milano: Ulrico Hoepli. 1901.

Manuale del Massaggio. Del Dottor Romolo Majnoni, Dirigente alla Poliambulanza di Milano gia Chirurgo Assistence al l'Instiuto dei Rachitici. Con 54 Incisioni. Cloth. Pp. 179. Milano: Ulrico Hoepli. 1901.

How to Cook for the Sick and Convalescent. Arranged for the Physician, Trained Nurse, and Home Use. By Helena V. Sachse, Graduate of the Philadelphia Cooking School. Cloth. Pp. 239. $1.00 net. Philadelphia: J. B. Lippincott Co. 1901.

Progressive Medicine, Vol. II, June, 1901. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 460 pages, with 81 engravings and one full-page plate. Issued quarterly. Price, $10.00 per year. Philadelphia and New York: Lea Brothers & Co.

Lectures on the History of Physiology During the Sixteenth, Seventeenth and Eighteenth Centuries. By Sir M. Foster, K.C.B., M.P., M.D., D.C.L., Sec. R.S., Professor of Physiology in the University of Cambridge. Cloth. Pp. 310. Price, $2.25. Cambridge: The University Press. 1901.

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The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., June 20 to 26, 1901, inclusive:

John Carling, *major and surgeon, Vols., having tendered his* resignation, is honorably discharged from the service of the United States, to take effect July 3, 1901.

Charles M. Gandy, major and surgeon, U. S. A., former orders *modified so as to direct him to proceed to Manila, P. I., in the* transport *McClellan,* to sail from New York City, N. Y., July 10, 1901.

John H. Hess, dental surgeon, from Washington, D. C., to West Point, N. Y., for duty at the U. S. Military Academy.

Damaso T. Lainé, major and surgeon, Vols., recently appointed, relieved from duty in the Department of Cuba, to proceed to San Francisco, Cal., en route for service in the Division of the Philippines.

Appointments, promotions, and other changes in the regular and volunteer medical forces of the Army, reported from the Adjutant-General's Office, Washington, D. C., May 16 to June 15, 1901:

During the month ending June 15, 1901, the following promotions and other changes in the status of medical officers of the regular and volunteer forces were reported from the Adjutant-General's Office. Previous changes of this character were reported in the Journal of June 8, 1901.

Deaths, Regular Army.—Major Edward Everts, retired, May 17, 1901, at Alameda, Cal.; Major Louis S. Tesson, surgeon, June 17, 1901, at Vancouver Barracks, Wash.

Appointments, Volunteers.—To be surgeons, with the rank of major: Captain John Carling, assistant surgeon, U. S. Vols., May 11, 1901: Damaso T. Lainé, of Cuba, May 27, 1901; Abram L. Haines of New York, May 27, 1901; Captain Simon J. Fraser, assistant surgeon, U. S. Vols., May 31, 1901; Captain Howard A. Grube, assistant surgeon, U. S. Vols., May 31, 1901. To be assistant surgeons, with the rank of captain: Meyer Herman of Louisiana, May 11, 1901; John Bilbert of Pennsylvania, May 10, 1901.

Honorably Discharged, Volunteers.—Major B. Albert Liebermann, surgeon, 33d Infantry, May 27, 1901; Captain William C. Berlin, assistant surgeon, 45th Infantry, April 20, 1901.

Mustered Out with Regiments. Volunteers.—Major Harold L. Coffin, surgeon, 39th Infantry, May 10, 1901; First Lieutenant Charles Fitzpatrick, assistant surgeon, 45th Infantry, June 3, 1901.

Commissions Vacated by New Appointments.—Major James D. Glennan, surgeon, 38th Infantry, May 11, 1901, by appointment as major and surgeon, U. S. Vols.; Major William B. Banister, surgeon, Vols., April 2, 1901, by promotion to major and surgeon, U. S. A.; Major Samuel C. de Kraft, surgeon, Vols., May 10, 1901, by appointment as major and surgeon, Vols., under the act of February 2, 1901; Major William D. Bell, surgeon, 42d Infantry, May 18, 1901, by appointment as major and surgeon, U. S. Vols.; Captain Isaac W. Brewer, assistant surgeon, May 20, 1901, by appointment as major and surgeon, U. S. Vols.; Captain George P. Peed, assistant surgeon, May 15, 1901, by appointment as major and surgeon, U. S. Vols.; Captain John Carling, assistant surgeon, May 17, 1901, by appointment as major and surgeon, U. S. Vols.

Mustered Out of Service.—Major Charles F. Mason, surgeon, and Captain Richard S. Griswold, assistant surgeon, 26th Infantry, May 13, 1901; Major Charles L. G. Anderson, surgeon, and Captain Joseph L. Sanford, assistant surgeon, 29th Infantry, May 10, 1901; Major Frank E. Artand, surgeon, 45th Infantry, June 3, 1901; Major William Cogswill, surgeon, and Captain Henry H. Lee, assistant surgeon, 46th Infantry, May 31, 1901.

Navy Changes.

Changes in the Medical Corps of the Navy, week ended June 29, 1901:

P. A. Surgeon E. M. Shipp, detached from the *Michigan* and ordered to the Asiatic Station by vessel sailing from San Francisco, July 15.

P. A. Surgeon W. B. Grove, detached from the Naval Hospital, Norfolk, and ordered to the *Michigan,* June 28.

Assistant Surgeon G. C. Smith, detached from the *Vermont,* and ordered to temporary duty on the *Alvarado,* July 1.

Assistant Surgeon H. M. Tolfree, *ordered to the Vermont as the* relief of Assistant Surgeon G. C. Smith.

Assistant Surgeon J. S. Taylor, detached from the *Manila,* and ordered to the Naval Hospital, Yokohama, Japan.

Assistant *Surgeon* W. H. *Bucher, commissioned past assistant* surgeon, from April 15, 1901.

Drs. R. T. Atkinson and A. W. Balch appointed assistant surgeons in the Navy, from June 22, 1901.

P. A. Surgeon R. S. Blakeman, *ordered to the Naval Hospital,* Norfolk, Va.

Marine-Hospital Changes.

Official list of the changes of stations and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital service for the seven days ended June 27, 1901:

Banks, C. E., surgeon, granted leave of absence for two days.

Hastings, Hill, assistant surgeon, to proceed to San Diego, Cal., for special temporary duty.

Adams, E. B., acting assistant surgeon, granted leave of absence for three days from June 23, 1901, on account of sickness.

Bailey, C. W., acting assistant surgeon, granted leave of absence for ten days from June 21.

BOARD CONVENED.

Board convened to meet at Washington, D. C., June 27, 1901, for the physical examination of applicants for the position of engineer officer in the Revenue Cutter Service. Detail for the Board: Past Assistant Surgeon H. D. Gaddings, chairman; Past Assistant Surgeon J. B. Greene, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon General, U. S. Marine-Hospital Service, during the week ended June 29, 1901:

SMALLPOX—UNITED STATES.

California: Los Angeles, June 15-22, 1 case.
District of Columbia, Washington: June 15-22, 1 case.
Indiana: Evansville, June 22, 1 case.
Louisiana: New Orleans, June 15-22, 3 cases, 1 death.
Kentucky: Lexington, June 15-22, 1 case.
Massachusetts: Fall River, June 15-22, 6 cases; Fitchburg, June 1-8, 1 case; New Bedford, June 15-22, 1 death; Quincy, June 15-22, 1 case.
Michigan: Detroit, June 15-22, 2 cases; Grand Rapids, June 1-22, 8 cases.
Missouri: St. Louis, June 8-16, 34 cases.
Nebraska: Omaha, June 15-22, 5 cases.
New Hampshire: Manchester, June 15-22, 1 case.
New Jersey: Newark, June 15-22, 2 deaths; Jersey City, June 16-23, 2 cases.
New York: Buffalo, June 19, 1 case; Elmira, June 15-22, 1 case; New York, June 15-22, 60 cases; 20 deaths.
Ohio: Cincinnati, June 14-21, 4 cases; Cleveland, June 14-21, 24 cases.
Pennsylvania: Lebanon, June 15-22, 9 cases; Philadelphia, June 15-22, 2 cases.
Rhode Island: Providence, June 15-22, 1 death.
Tennessee: Memphis, June 14-21, 8 cases.
Utah: Salt Lake City, June 15-22, 2 cases.
West Virginia: Wheeling, June 15-22, 1 case.
Wisconsin: Green Bay, June 16-23, 1 case.

SMALLPOX—FOREIGN.

Canada: Stanbridge, June 6, present.
Columbia: Panama, June 10-17, 6 cases.
France: Paris, June 1-8, 24 deaths.
Germany: Hamburg, June 1-8, 2 cases.
Great Britain: Glasgow, June 7-14, 18 cases, 1 death; Liverpool, June 1-8, 1 case; London, June 1-8, 1 case.
Greece: Athens, June 1-8, 1 case.
India: Bombay, May 21-28, 8 deaths; Calcutta, May 18-25, 25 deaths; Karachi, May 19-26, 10 cases, 6 deaths.
Italy: Messina, June 1-8, 16 cases, 1 death.
Russia: St. Petersburg, May 24-June 1, 11 cases, 6 deaths; Warsaw, May 18-25, 7 deaths.
Spain: Corunna, June 1-8, 1 death.
Straits Settlements: Singapore, May 4-11, 1 death.

YELLOW FEVER.

Costa Rica: Port Limon, June 13, 1 case.

CHOLERA.

India: Bombay, May 21-28, 3 deaths; Calcutta, May 18-25, 65 deaths.

PLAGUE.

China: Hongkong, May 11-18, 122 cases, 113 deaths.
Egypt: Miniet, June 3, 2 cases; Zigazág, June 3, 1 case.
India: Bombay, May 21-28, 192 deaths; Calcutta, May 18-25, 47 deaths; Karachi, May 19-26, 112 cases, 107 deaths.
Japan: Formosa, May 21, 41 cases, 29 deaths.

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Addresses.

ON THE ADVANCEMENT OF SURGICAL PEDIATRICS.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON DISEASES OF CHILDREN, AT THE FIFTY-SECOND ANNUAL MEETING OF THE A. M. A., AT ST. PAUL, MINN., JUNE 4-7, 1901.

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SURGERY IN PEDIATRICS.

I wish to offer some remarks on the advancement of the surgical side of pediatrics. Surgical pediatrics was later and slower in its development than was medical pediatrics. It is evident that the advance of such a science and art may be measured in many different ways. For instance: 1. By the recognition of the necessity and importance of it. 2. By the increase of actual knowledge concerning it—the discovery of new facts. 3. By the spread of knowledge through text-books and other literature, teaching in the medical schools, and in that kind of post-graduate schools wherein all are professors and all are pupils—namely, the medical societies. 4. By the extent to and the manner in which knowledge is applied in practice, both private and in hospitals, and the number and enthusiasm of those who devote themselves to it.

Obviously it will be impossible for me to trace elaborately the advance in this department, which would involve a complete history of the branch. I shall merely touch here and there certain salient points indicative of progress, or the lack of it.

Among all these indices one may usually measure very well the status of any department of learning by its own special literature; although it may happen that the facts or principles which should be combined into a science remain too long isolated or connected with various other groups, their own natural relationships unrecognized.

As we all know, numerous writers from the ancients down have alluded to the behavior of disease in children, the surgical, occasionally, as well as the medical; and yet as late as 1846, when Coley wrote an introduction to his "Practical Treatise on the Diseases of Children," he made the following statement: "I am not aware, however, that any author, British or foreign, has published a work comprehending all the diseases incident to children and their appropriate surgical as well as medical treatment. This omission may be accounted for by the division of the profession, which has limited the education and practice of physicians who have hitherto been the principal or only writers on infantile disorders."

This remark Dr. Coley makes after professing himself *acquainted among modern writers*, with the works of Astruc, Armstrong, Hamilton, Cheyne, Heberden, Becker, Plenk, Auvity, Burns, Capuron, Clarke, Gardien, Comet, Gölis, Dewees, Underwood, Billard, Meissner, Marley, Maunsell and Evanson, Barrier, Barthez and Rilliet, Rees, etc. I am ready to vouch that Dr. Coley's statement is well founded, for on perusal of many of the authors he mentions, and others not in his list, it becomes evident that none of them had given adequate attention to the surgical side of children's diseases.

Take for example Underwood—writing in 1795—who devoted 188 pages, or Part I, of his second volume, to " All such complaints as may fall under the province of the surgeon, with others that may be said to be of a mixed kind which," as he says, "should be all familiar to every accoucheur." But Underwood addressed his text as much to the laity as to the profession, and there is little or nothing in it to enlighten or guide the surgeon.

Even John Syer, surgeon, of London—who, being a surgeon, might be expected to do better in this respect —in his treatise, written in 1812, presented no topics which might be called surgical, excepting purulent ophthalmia, croup, and rickets. Under croup, he did not even mention any operative measures. However, tracheotomy, although known, was little esteemed until Trousseau's revival of it in 1850-57. As to rhachitis, Syer gave no definite account of the deformities and only a general description of deformity apparatus. For these, as for other diseases, he presented "the General Principles of their Domestic Treatment."

Dewees' "Treatise on the Physical and Medical Treatment of Children" (1826), included ophthalmia, croup, hip-disease, hydrocele, herniæ, and several skin affections, but even these few surgical topics can not be said to have been handled surgically.

Eberle's book (1833) had practically nothing surgical.

Billard—the English translation of whose work appeared in 1839—included in his treatise diseases of the skin, herniæ, prolapse of the rectum, intussusception (at least the kind found postmortem), malformations of various parts, and also fractures—*intra-uterine*, and of the new-born. But he pointed out no differences between those abnormalities and similar conditions in the adult, nor did he give the treatment for them. His attention was centered on "Recent Clinical Observation and Investigations in Pathological Anatomy," for this was the period of a new enthusiasm in that branch of medical science.

Evanson and Maunsell (1843) included syphilis, rhachitis, skin diseases, foreign bodies in the larynx, fractures, herniæ, nevi, tongue-tie, hare-lip, spina bifida, and ophthalmia, imperforate anus, and various deformities of the genito-urinary organs. Although they sometimes advised and described the treatment then considered appropriate for these difficulties, their general attitude seems to be expressed in a remark which appeared in connection with making an artificial anus in the groin (page 138), as follows:

"The operation would be a very hopeless one; but a consideration of its merits, and of the exact modes of performing the other operations, belong rather to the province of the surgeon, than of the child's physician—who, in that capacity, has merely to ascertain the nature of the deformity, and must draw upon his own general knowledge of surgery, or apply to another practitioner for the means of its removal." Their position on this point is again stated when treating of hare-lip (page 139). "The consideration and treatment of this deformity belongs to the surgeon—all that the child's physician, as such, has to do with it, is to consider *when* the operation should be performed. If the child can suck, it is better not to submit it to the hazards of an operation in early infancy. But cases occasionally occur in which such a degree of deformity exists as to demand immediate assistance in order to give the infant a chance for life. The nature of the operation, and modes of performing it, belong altogether to the province of surgery."

These authors mentioned are but examples. Others who might be cited—for instance, Stewart, 1843,—were much like them. So that it appears to be true that physicians had until then "been the principal or only writers upon infantile disorders," and had made little progress in surgical pediatrics.

But Coley purposed, as every good author should, to do better than his predecessors, and in the matter of the surgical diseases, he in some degree succeeded. He not only discoursed on the herniæ, imperforate anus, clubfoot and other distortions, hare-lip, laryngotomy and tracheotomy, foreign bodies swallowed or lodged in the pharynx, or in the vermiform appendix, prolapsus ani, pyothorax, vesical and urethral calculus, imperforate urethra and vagina, phimosis and paraphimosis, diseases of the joints, burns and scalds, spina bifida, and other surgical topics, but he advised and described the surgical treatment which experience or the literature up to his time had taught him. He also treated of diseases of the eyes, and of the skin, quite extensively. But Coley's book seems to have attracted little attention.

J. Forsyth Meigs, writing in 1848, presents nothing surgical, although his work more nearly equalled the quality of those on general medicine than had any upon diseases of children up to that time. Nor can the lectures of Charles West, the most admirable clinician and oft-quoted writer of his time, be said to deal with both sides of his subject.

In Churchill (1850), a few topics, as tracheotomy, paracentesis for pleurisy, hare-lip, cleft palate, imperforate anus, and spina bifida receive some surgical handling. Condie does not consider that surgical subjects fall within the scope of his treatise.

But by this time the knowledge of anatomy, of physiology, of pathology, and of the history of diseases and injuries had increased to such an extent, the observations of practical surgeons had so accumulated and the establishment of hospitals for children had so improved the facilities for the study of their diseases that their peculiarities and their importance could no longer be quite ignored by the profession.

About the year 1850, in Paris, while Trousseau taught the diseases of children, the surgical side was taught by Giraldes, who, however, published little in permanent form until later. In 1855, J. C. Forster, in London, had been making "A few remarks on the surgical diseases of children," and in 1860 his 8vo volume was published. It was also in the year 1860 that A. A. W. Johnson delivered, at the Hospital for Sick Children, a course of "Lectures on the Surgery of Childhood."

In 1863 we find that the council of the Medical Society of London, "recognizing the importance of this subject, have been led to believe that the interests of its members might be promoted and the profession benefited by having their attention drawn from the broad field of general medicine and surgery to the comparatively small one of the diseases of children; and on the strength of this belief have, abandoning the custom by which they have been hitherto bound, defined the subjects for the Lettsomian lectures"; and they nominated as lecturer, Mr. Thomas Bryant, who delivered three admirable lectures on the surgical diseases of children.

M. Giraldes, in Paris, had been followed as the leading teacher, by Guersant, whose "Notices sur la Chirurgie des Enfants," a series of very pointed and practical papers, found their way into an English translation in 1871. Giraldes prepared his clinical lectures for publication about the same time.

The work with both scalpel and pen, of the pioneers in this special line, had now become so valuable that still further interest was aroused and talent engaged in its behalf.

In 1869, Timothy Holmes issued his "Surgical Treatment of Children's Diseases," a book of nearly 700 pages, and in quality well worthy of its great author.

You will please observe that Holmes omitted, from the first edition, some special subjects, viz., diseases of the eye and ear, orthopedics and diseases of the skin, "not," he says, "because I am in favor of cutting up surgery into little pieces, but because the volume had already exceeded what I had intended; and these subjects are all excellently treated in works which are in everybody's hands." However, in the second edition—yielding to a sense of the fitness of things—he added a chapter on orthopedics. I mention this point in particular to illustrate the fact that the other specialties had advanced so much faster than pediatrics, and particularly than surgical pediatrics, as to have completely outstripped it in development as a distinct branch of our profession.

This statement is capable of verification by reference to the history of the other branches and is particularly shown by the specialties of the eye and ear, skin diseases and orthopedics, and later gynecology. *Obstetrics*, which synchronously with anatomy had become separated in the work of the medical schools from surgery, had remained in practice more distinctly in the hands of the general practitioners. But obstetrics, fecundated by its former companion, surgery, gave birth to a charming daughter, gynecology, who soon grew to maturity, came out in society with the greatest èclat, became the reigning belle and turned the heads of many susceptible young men for a long season. Thus gynecology, with the other specialties, chronologically took the lead of surgical pediatrics.

It is curious to observe in this connection that the "Compendium of Children's Diseases," of Johann Steiner, of Prague, which appeared about this same time, had for its English translator no less a personage than Lawson Tait, who added a few notes on the "Surgical Ailments of Children." One can not but speculate on what might have happened if Lawson Tait had felt a greater attraction for surgical pediatrics than for gynecology.

But my cursory sketch has brought me down to times almost within the recollection of the majority of my hearers. You are familiar with the record of the last thirty and the magnificent work of the last twenty years in the surgical diseases of children.

To continue a comparison among the recent achievements of those still active in professional life would require a nicer discrimination and might involve greater consequences than I care to assume; but I may at least mention, in passing, and almost at random, the names of Pooley, Marsh, Owen, St. Germain, Fumagalli, Willard, Wright, Ribiera y Sans, R. W. Parker, Charon and Gevaert, Karewski, McEwen, McClellan, Keen, Taylor, Wharton, Packard, Morris, Morton, Power, Phocas, and O'Dwyer, although I have omitted scores of worthy authors of books and writers of essays, brilliant investigators and able practitioners in this field. The new impulse came along with the grand impetus of general surgery occasioned by antisepticism.

There is now needed no elaborate argument to prove that there is a department of surgery as distinct from that of adult life as the medical diseases of children differ from those of their elders. As in medical pediatrics, so in surgical, we meet abnormalities found only in children, and also we meet those which, while they occur in adults as well as in children, are in the latter marked by different phenomena, manifest a different behavior, require a different treatment and often bring a different result from what would be usual in the same affections occurring in persons of mature years. It is only necessary to point out that the malformations, the early evidences of hereditary syphilis, separation of the epiphyses, croup, rickets, eneuresis, cancrum oris and noma, as well as certain herniæ and hydrocele and certain varieties of tumor, belong to the class of troubles found only in children. While intussusception, prolapse and polypus of the rectum, hip-joint disease, postnasal adenoids, enlarged tonsils, foreign bodies in the nose and ear, and cervical adenitis, although not exclusively found in children practically belong to the surgical affections of childhood.

Concerning the fractures and dislocations, empyema, and nearly the whole remaining list of surgical ailments —not to mention orthopedics or numerous affections of the eye and skin—we who have given the subject special study and are accustomed to surgical work among children know how common they are, and to a certain extent how different they are from similar afflictions in the adult. We are aware what peculiarities surround operative work upon children; how ill they bear hemorrhage or cold or prolonged shock, and how wonderfully they recuperate once the stress of the storm is past. The effects of anesthetics and of antiseptics, the art of dressing and bandaging and the use of medicines and diet in surgical cases—all these differ in children from similar cases in the grown up. Even if the specialists take all they dare there is enough remains of what might be called general surgery of children that is peculiar and requires special study and experience.

In view of all the splendid progress that has been made, it may appear ungrateful and hypercritical to seem dissatisfied; and yet to be satisfied is to stop progress, and there remains a great deal to be done to advance this department.

The exact points and degrees of difference in the phenomena of diseases and injuries, their prognosis and their treatment are not yet all completely mapped out, while there is much territory never yet thoroughly explored by any in the profession.

A larger amount of work needs to be done in the diffusion of such knowledge as is available, and in the application of it in practice; for the available knowledge is yet but indistinctly and vaguely seen in the minds of many practitioners of general medicine and surgery, and the all-around pediatrist as often finds the surgeon as the physician at fault in his work upon children, for want of special knowledge of them—mistaking the condition, miscalculating the probabilities, misjudging the vital force . In fact, the profession at large has not yet even sufficiently recognized the necessity and importance of this branch.

In the colleges insufficient attention is paid to the surgical diseases of children. In 1896, in an address as president of the Ohio State Pediatric Society, I gave the replies I had received to inquiries directed to the various medical colleges of the United States and Canada, upon the point whether surgical as well as medical diseases of children were taught in the regular course. Sixty-three colleges replied upon this subject. Thirty-seven of them said that the medical side only was taught and twenty-six taught surgical as well as medical pediatrics. When I asked the question, "Does the teacher individually consider that pediatrics includes the surgical as well as the medical diseases of children," I was answered affirmatively forty times, negatively, thirteen, while the remainder either left the question unanswered or answered indefinitely.

In the medical journals and in the medical societies one finds evidence that too little attention is paid to these surgical subjects. Examine your journals and the program of any medical society, even a pediatric society, and see what a small percentage of papers is on surgical topics in pediatrics. Some of those which should be found in the pediatric appear in the transactions of other specialties.

There is still in the minds of the profession, as of the people, a degree of misapprehension as to the natural and proper scope of pediatrics. There are many, both in and out of the profession, who look upon the child's doctor as a kind of a male nursemaid, who limits his practice to mixing milk and inspecting diapers. Very important things to be done are these, but scarcely the only work of a pediatrist!

There should, if necessary, be children's surgeons as well as children's physicians; or if, as Holmes says, one "objects to cutting up surgery into little pieces," it should at least be required that the surgeon extend his knowledge to diseases of children.

As to whether one man can practice, successfully, both medical and surgical pediatrics, is a question somewhat aside from our present theme. In my opinion the answer must depend on the circumstances and the man.

In addition to the misapprehension I have mentioned as to the scope of pediatrics, and to the fact that other specialties have outstripped it and to some extent taken from it, it is evident that the long-time-ago state of affairs yet prevails—namely that more physicians than surgeons have devoted themselves to this branch. To what extent this is a cause and to what extent an effect of the other causes, would be hard to decide. But I believe the present state of things will continue until earnest and devoted workers in this department succeed in gaining general recognition of its importance, and either more pediatrists turn their attention to surgery or more surgeons turn pediatrists.

My hope is that the attention of my hearers individually, and of the Section as an organization, may be aroused on this subject, and that you may be led to make further advancement in this beneficent and to me most delightful department of professional labor.

THE STUDY OF LARYNGOLOGY IN THE UNIVERSITY AND IN THE HIGHER MEDICAL EDUCATION.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON LARYNGOLOGY AND OTOLOGY, AT THE FIFTY-SECOND ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT ST. PAUL, MINN., JUNE 4-7, 1901.

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BALTIMORE, MD.

Instead of making the usual report on the year's progress in the specialty, I will depart from the prescribed routine and call attention to a subject which is of vital importance both to the laryngologist and to the profession at large. At the outset I wish it to be distinctly understood that I shall speak only of undergraduate instruction in schools of the very first rank, and not of the more elaborate training of the postgraduate for special work.

The study of laryngology has been grossly neglected in the medical schools of this country and Europe. It is either omitted entirely from the schedule of studies or, in many colleges at least, it is taught in a superficial, perfunctory sort of way that neither inspires faith in the instructor nor interest in the student.

Although the catalogue often tells in glowing terms of a course on laryngology, such a course will be found in practice to be like the "Co." in "A. Tetterby & Co.," "a mere poetical abstraction, altogether baseless and impersonal." In very few schools is it taken at all seriously, while in only one is it an obligatory study and a requisite for the degree. It seems to me, therefore, that the time is ripe for the discussion of its place in the university and in the higher medical education.

IMPORTANCE OF A STUDY OF LARYNGOLOGY AND ITS PROPER PLACE IN THE CURRICULUM.

I use the term laryngology in its broadest sense, to denote the anatomy, physiology and diseases of the upper respiratory apparatus, together with its connections and appendages, or accessory cavities. In this latter category may be placed the pharynx and the middle ear. The position assigned to laryngology in the university has been heretofore not at all commensurate with its importance, and yet of all the pure specialties, that is to say, those branches requiring special technique and special instruments and methods of precision, it is the most generally useful to the diagnostician and general practitioner. The time has gone by when it should be necessary to press the claims of laryngology to recognition of the highest rank. We no longer apologize—we demand. There was a time when laryngology meant little more than the art of laryngoscopy, and it was often prostituted to inferior use. It is no longer a simple method of examination and demonstration, but an enduring, vital force in medical progress, which lives and breathes and has its being within the very heart of inner medicine itself. It is no longer the Canaan of the quack, but a fair land of promise for the highest order of research. It should, therefore, hold high place in the curriculum of the college and university. It should have a separate, well-equipped department and a full professorship. While I do not wish to over-estimate the relative value of laryngology in a scheme of medical education, and while I am fully conscious of the present congested condition of the schedule, and the future necessity of a large number of elective studies, I am of the opinion that, in view of its very great importance, it should remain, as it is in the curriculum of the Johns Hopkins University, an obligatory study. If laryngology and ophthalmology should ever disappear from the list of compulsory studies, they should be the last to go. Their exile from a curriculm in which they have been once established would be, not an act of progress, but of retrogression.

THE FUTURE OF THE LARYNGOSCOPE.

A knowledge of the use of the laryngoscope will in the future be as necessary to the equipment of the advanced physician as is now a knowledge of the physical examination of the chest. It is absolutely invaluable to the diagnostician, for it is especially useful in the early detection of disease, often pointing, long in advance of classic signs and symptoms, the way to grave disorder. Time was, not very long ago, when physical diagnosis of the chest was not required of the medical student, and when the special knowledge of the art was supposed to be, and practically was, confined to the few. Now every practitioner of medicine knows, or thinks he knows, it all. The laryngoscope will go the way of the stethoscope and become the common property of the general practitioner of medicine. It will be an absolute necessity in that specialty which, next to surgery, is the highest of them all—the great special study of the future—internal medicine. The time will come when the art of laryngoscopy will be linked to general medicine as the art of physical diagnosis has become its inseparable associate.

INCREASING GENERAL KNOWLEDGE OF LARYNGOLOGY.

When, twenty-three years ago, the conception of creating the American Laryngological Association, the oldest special society of the kind in the world, arose in the brain of its too-early-lost founder, it was hardly possible to gather together more than a corporal's guard of men of national reputation in this department of medicine. Now the complexion of things has entirely changed. While at that time the specialist was found only in the larger cities, now there is scarcely a hamlet in the land that does not contain a laryngologist—indeed, in recent years the larynologist has, in some quarters at least, proliferated to an alarming extent.

There will come a time in the future—in the near future, perhaps—when the boundaries of the specialty will be almost indefinitely extended. The great advances which laryngology has made in recent years, the rapidly growing necessity of a knowledge of its special province in the elucidation of obscure conditions in adjacent and remote organs of the body, the popularity of its study and the accordingly rapidly increasing number and far-reaching geographic distribution of its votaries, will, in the course of time and in the nature of things, lead to such a congested state of the specialty that many will either be driven into the ranks of general medicine, or compelled to take up some other line of special work in connection with their original specialty. This already has been done in the smaller towns and in the great centers of population in the progressive west, where ophthalmology is the inseparable associate of laryngology and otology. The rational practice of the latter is impossible without a thorough knowledge of rhinology and diseases of the throat, and nothing is more illogical and grotesque than its solitary association with ophthalmology, except, perhaps, the combination alleged to have been practiced by a distinguished foreign ovariotomist, who took no cases except abdominal tumors and diseases of the ear.

While a more general knowledge of laryngology may have its drawbacks, if we look at the subject from a purely commercial point of view, it may have, among other things, a salutary effect in relegating to the rear that unfortunately numerically large element in our midst whose only claim to special knowledge resides in the possession of the necessary apparatus which goes to make up the armamentarium of a worker in this field.

DEVELOPMENT OF THE STUDY OF LARYNGOLOGY.

Let us now turn to the development of the study of laryngology by undergraduates in our medical schools, if, indeed, we may speak thus of a study which has practically just begun, and, in doing so, perhaps I can best illustrate the different phases of its development by giving a chapter from my own experience.

Twenty years ago, when I was on the working staff of the, then, largest throat and nose clinic in London—the Hospital in Golden Square—there was no place in that vast metropolis where the student could get systematic instruction in special work. None of the colleges or hospitals gave lectures on laryngology—nowhere was it requisite for the degree. All strangers in London, interested in the specialty, came to Golden Square, attracted there by the personality of Morell Mackenzie, then at the zenith of his popularity and power. With all the vast material at our command, there was practically no instruction given, except in the way of hasty demonstration of cases; and if the student or visitor learned anything, it was through close personal observation on his part and not through any gigantic effort to impart knowledge on the part of the medical staff. With one or two exceptions, the latter directed their attention almost solely to the larynx and thyroid gland, and the nasal passages were only examined when in quest of a polypus or when the attention was irresistibly attracted to these organs by the horrible stench of an ozena. The nasal cavities were practically neglected and the only apparatus in the hospital for the treatment of these diseases consisted of a pair of forceps for the removal of nasal polypi, and a hand-ball atomizer with a detergent solution for the treatment of ozena or any other miscellaneous disease of the nose that might irresistibly obtrude itself upon the recognition of the medical staff. When later I studied on the Continent, I found a like condition of affairs. In no school was laryngology taught to undergraduates, and the only means of acquiring special knowledge of the subject were the imperfect courses on diseases of the larynx given by the professors and their assistants. There was no special course in rhinology, which subject, as in England, was left entirely alone. I returned to my own country to find the same neglect of the study of laryngology that I had found in England and on the Continent.

In 1887 I was called to the chair of laryngology and rhinology in one of the oldest medical schools in America. The annual catalogue and circular told in flamboyant terms of a course on laryngology which at once set the mind to wondering how it would be possible for a student to escape from the institution without absorbing all that was coming and all that had gone before in that imperial domain. On my induction into office, I cast about me for the paraphernalia which should accompany my lofty position. I found in a dark closet or hole which led under the seats in the amphitheater where the lectures and clinics were given, a dilapidated lamp whose structure and general appearance of antiquity suggested the possibility that it might have been originally trimmed by some spirit in the age of fable, a broken laryngeal mirror, from whose back the quick-silver had long since departed and a cardboard diagram, colored blood red, like an eczema, which was supposed to represent the laryngeal image but looked more like a vulva on fire. These crude implements of the laryngoscopic art I found—and a tradition. According to this tradition my predecessor in office was accustomed to meet the class at the opening of each session, and, after a few introductory remarks, disappeared with a patient into the closet under the seats and closed its door. There was a period of breathless silence and intense expectation on the part of the students, during which time all manner of strange noises were heard in the darkness beneath them. These finally ceased, and the professor reappeared, his face radiant with satisfaction, and advancing toward the class, with the laryngeal mirror held aloft, triumphantly exclaimed, "Gentlemen, I have seen the vocal cords." According to the same tradition, that was all the laryngology the class got during the session.

The quarters assigned to me in the dispensary, where the patients were examined, consisted of a little compartment or "box" from which all sunlight and fresh air were carefully excluded, and in whose foul atmosphere two of my assistants subsequently probably contracted tuberculosis. It was thus thoroughly equipped and under such cheerful conditions that, without either moral or financial support on the part of the executive branch of the institution, I began the task of teaching practical laryngology to undergraduate students. Fortunately, I had excellent assistants, with whose aid I soon built up an excellent clinic, so that we were enabled to give the men during the session demonstrations of most of the diseases of the upper air-tract and all the common operations on the nose and throat. I gave the lectures and clinics and my assistants superintended the instruction of the students in the dispensary. Although attendance in the department of laryngology was not compulsory, and although no examination was ever held in this branch, the course was largely attended and many became so much interested in the subject that they subsequently took it up as a specialty.

In 1889 the Johns Hopkins Hospital threw open its doors, and several years later (1893) the medical school in connection with it and the University, was formally opened. The Johns Hopkins University deserves the credit of being the first institution of learning, either in this country or beyond the seas, to give to laryngology the prominence which its place in medical education demands. It was the first to make it an *obligatory* study in the curriculum, and to make an examination in this branch a requirement for the degree of Doctor of Medicine. This was one step, and in consideration of the former neglect of the subject, a prodigious one, to place laryngology where it properly belongs and to give to it the position and prestige to which it is justly entitled. It, therefore, marks an important era in the evolution of the undergraduate study of laryngology. If for no other reason, then, as a matter of historical interest, I will ask attention to the method of teaching the specialty which has been adopted in this institution. I shall content myself with simply giving a mere outline of the work, and shall not enter into matters of detail.

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The graduating class is divided into four sections—each section (of the fourth-year class) attends for one and one-half hours daily during two months, the laryngological and rhinological department, where they receive practical instruction from my assistants and myself. After preliminary drilling in the use of the laryngoscope and other technical procedures, and in diagnosis, the student assumes the work of clinical assistant. He is given pathologic material for examination and diagnosis, and is encouraged to report cases and read papers before the Hospital Medical Society, to look up the literature of interesting subjects connected with laryngology, to observe for himself and, if he has time, to do original work. He is taught to investigate and to enquire, and I may say just here that it often requires a very high order of human ingenuity to construct an evasive answer to some of the conundrums with which I am frequently assailed. He takes his first lesson on the human subject—gets his first impression from Nature. I formerly used models; but some one stole them and I am glad they are gone.

By the above method, the teacher comes into direct personal contact with each member of the class, and is enabled to measure the mental status of the individual. In no other way can laryngology be properly taught. It is hard work, but it pays in the results which are accomplished. Laryngology can not be taught by text-book or lecture. It must be taught over the shoulder of the instructor, and on the part of the student, must be acquired by direct contact with, and personal observation on, the living subject.

While the didactic lecture is fast becoming an anachronism, I do not believe that the day of its usefulness is completely gone. I give a systematic course of weekly lectures to the entire class, which are supplemented by pathologic and clinical demonstrations, on the anatomy, physiology and commoner diseases of the upper air-passages and their relations to morbid processes in other parts of the body. In this course especial attention is paid to diagnosis. The object of these lectures is two-fold: 1, to give in a concentrated form and in the shortest possible time information which could not be acquired except by great additional labor on the part of the student, and 2, to avoid endless repetition in the section room.

In the matter of text-books and literature, the class is shown the principal works and current periodicals in English, French and German. No special text-book is recommended or required; but, in connection with the lectures, the students are referred to special articles and monographs containing the classic literature of each special subject.

The question of the value of examinations is a very important one and one which is destined soon to be pressed to final settlement. While I can not go as far as my gifted friend and colleague, Professor Mall,[1] who is of the opinion that it would be well to separate them from the course of instruction entirely, I must confess that I am very much in sympathy with him in the main points of his contention. But until a more rational and exact method of accomplishing the same results be devised, I am afraid the examination must remain as a necessary evil. It is often a farce. One of the best examination papers I ever received was from a student who, on account of a serious illness, was compelled to absent himself from the very lectures on which the class was being examined. He had used the notes of a fellow-student and came back at me almost with my own words. In the university in which I received my first medical degree, instruction, except in the department of anatomy, which was practically and ably taught, was entirely by didactic lectures. We sat all day in the lecture-room taking notes, and spent the entire evening "cramming" them for the next recitation. We never saw a medical case. Once during the session, the professor of surgery brought in the colored janitor, stripped him and bandaged his legs and arms. This was our only course in practical surgery. Those were the good old days when, as Mall says, the students "heard much, saw little and did nothing." When the day of examination arrived I knew my text and note books from cover to cover, and could locate with unerring accuracy any required item of information to the page and to the line. My memory was so saturated with medical lore that it took me some years after I left college to forget it. I was invincible in the examination room, but helpless at the bedside.

The best examination is the observation of the student in his daily work and the resulting estimate of his personal equation. During the first two years I gave an oral examination at the end of the term, carrying each student over the entire field covered by the lectures, but, as the size of the class increased, this had to be abandoned, and I now give a single written examination, of which the following, which was my first, is an example.

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This, in brief, is a simple outline of the way in which laryngology is taught in the Johns Hopkins Medical School. I am fully aware of the imperfections of the method; but everything must have a beginning, and time and further experience will doubtless make it more perfect. In the classes under my care it has so far been very successful. The net result is that when the student graduates he has made a very fair groundwork on which to base, in the future, if he will, a more elaborate study of the specialty.

LARYNGOLOGY THE INSEPARABLE ASSOCIATE OF GENERAL MEDICINE.

In teaching laryngology the instructor should forever bear in mind, and the student should never be allowed to lose sight of, the fact that it is an inseparable part of general medicine—that the pathology of nasal and laryngeal diseases is not an isolated pathology; that the appearance of disease in the upper air-tract is governed by the laws that condition the development and course of disease in general, and that the rational interpretation of these affections presupposes, therefore, the application of general pathologic principles to the peculiar conditions which the anatomic and physiologic functions of the structures involve. Above all, he should remember that peculiarity of structure is not anatomic isolation; he should remember the correlation of organ and organ, the sympathy of tissue and tissue which makes up the perfect physiologic life of man. In looking upon the subject from the high vantage ground of general pathology and laws of health, the student is in a better position to apprehend the rôle which external and internal influences play in the evolution of disease of the respiratory apparatus, than if he viewed the subject from the level of a narrow specialism or from the standpoint of the mere empiric.

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Original Articles.

SIMPLE GINGIVITIS, ITS ETIOLOGY AND TREATMENT.*

GEO. T. CARPENTER, M.D.

CHICAGO, ILL.

Disease of the human gums, in these days of advanced civilization, is very common and almost universal. In fact, it is a rare thing to find gums that are in all their margins perfectly free from irritation, inflammation, hypertrophy, atrophy, or absorption, and many will show evidence of gingival ulceration. At three previous meetings of this Section I have presented papers closely connected with the present subject. The conditions then studied were the result of advanced inflammatory or suppurative processes; but by the term "simple gingivitis" I include only that condition of the gum margin about the necks of the teeth, known as the gingiva, that shows the slightest departure from health, but is fully established and persistent in its nature. It is the purpose of this paper to take gingival irritation in its simplest form and point out its etiology and treatment, and in this way prevent the subsequent and more serious diseases, which by their certain progress result in pain, discomfort, loss of tissue, and eventually the loss of the teeth themselves. Gingival irritation is liable to present itself at any point where there is a gingival margin. We may find the gingiva of one tooth inflamed and the rest of the gums in a healthy condition. We may find the anterior teeth in a clean condition but affected by gingivitis, while in the posterior teeth, which receive less care, the gums may be in good, healthy condition. We may find gingivitis in some, or all, the gums in well-kept mouths, and we may find exactly the same condition of gums in mouths that do not receive the slightest care or attention. We will find this form of inflammation in the mouths of the young, those in middle life and old age. We will also find it in the anemic and emaciated, also in the well-nourished and rugged. This condition, which is found in the human mouth, is rarely found in the mouths of lower animals in their natural state, and from some experiments on the gingiva of rabbits I find that it is almost impossible to establish a gingival irritation without using some powerful infections or poisonous substance. We also find that in the human mouth where bands, clamps, wedges, or ligatures have caused some irritation and even laceration, that a gingivitis does not as a rule result, so that the etiology of this apparent slight trouble is varied and very obscure. The etiology or local causes: Irregularities and malocclusion are factors; also imperfect or loss of contour; improper use of the teeth or, more correctly, insufficient use of the teeth, causing lack of tone to the gum; inortitled. It, therefore, marks an important era in the evolution of the undergraduate study of laryngology. If for no other reason, then, as a matter of historical interest, I will ask attention to the method of teaching the specialty which has been adopted in this institution. I shall content myself with simply giving a mere outline of the work, and shall not enter into matters of detail.

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* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

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GEO. T. CARPENTER, M.D.
CHICAGO, ILL.

Disease of the human gums, in these days of advanced civilization, is very common and almost universal. In fact, it is a rare thing to find gums that are in all their margins perfectly free from irritation, inflammation, hypertrophy, atrophy, or absorption, and many will show evidence of gingival ulceration. At three previous meetings of this Section I have presented papers closely connected with the present subject. The conditions then studied were the result of advanced inflammatory or suppurative processes; but by the term "simple gingivitis" I *include only* that condition of the gum margin about the necks of the teeth, known as the gingiva, that shows the *slightest* departure from health, but is fully established and persistent in its nature. It is the purpose of this paper to take gingival irritation in its simplest form and point out its etiology and treatment, and in this way prevent the subsequent and more serious diseases, which by their certain progress result in pain, discomfort, loss of tissue, and eventually the loss of the teeth themselves. Gingival irritation is liable to present itself at any point where there is a gingival margin. We may find the gingiva of one tooth inflamed and the rest of the gums in a healthy condition. We may find the anterior teeth in a clean condition but affected by gingivitis, while in the posterior teeth, which receive less care, the gums may be in good, healthy condition. We may find gingivitis in some, or all, the gums in well-kept mouths, and we may find exactly the same condition of gums in mouths that do not receive the slightest care or attention. We will find this form of inflammation in the mouths of the young, those in middle life and old age. We will also find it in the anemic and emaciated, also in the well-nourished and rugged. This condition, which is found in the human mouth, is rarely found in the mouths of lower animals in their natural state, and from some experiments on the gingiva of rabbits I find that it is almost impossible to establish a gingival irritation without using some powerful infections or poisonous substance. We also find that in the human mouth where bands, clamps, wedges, or ligatures have caused some irritation and even laceration, that a gingivitis does not as a rule result, so that the etiology of this apparent slight trouble is varied and very obscure. The etiology or local causes: Irregularities and malocclusion are factors; also imperfect or loss of contour; improper use of the teeth or, more correctly, insufficient use of the teeth, causing lack of tone to the gum; inorganic substances used as dentifrice, causing unnatural or insoluble deposits under gum margins, which is most common in the lower jaw; the injudicious use of toothpicks; floss and rubber bands, keeping constant irritation at given points.

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* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

Constitutional Causes: A defect in nutrition or cachectic condition may cause an isolated gingivitis at a given point, just as the same condition may produce an aphthous ulcer at any point on the mucous membrane of the mouth. The same cause which results in dyspepsia, constipation, sick headache, dyspnea, and a host of other symptoms, also cause gingivitis.

Improper Nourishment: This is often the result of too much preparation of food for the teeth and stomach. Plain, coarse, wholesome food that will give the teeth something to do will act as a proper stimulus to the gums and will be kindly received by the stomach. The colored people at the close of the Civil War had mouths with healthy gums and teeth free from caries, but higher civilization, mingled with hotel and restaurant cooking, has so changed conditions that their mouths now are filled with both caries and disease. Careful examination of the mouths of many of the peasants emigrating from Europe, have led me to believe that the care of the mouth should be principally through the stomach and a thorough use of the teeth by mastication of food.

Treatment: Correct all mal-occlusions and restore perfect contour to crowns. Remove all local irritants and deposits and make a light application of tincture of iodin to affected parts and give instructions to prevent irritation and abuse of gums; change diet from mashed vegetables of all descriptions or soaked or cooked in milk to that of dry or Swedish toast, whole wheat, or grape-nuts; to be ground thoroughly fine with the teeth, incorporated with the saliva and swallowed. This treatment should be followed, especially with children suffering from gingivitis.

I am indebted to Dr. M. H. Fletcher, of Cincinnati, for the suggestion of corn-meal as a dentifrice. I think as a partial substitute for thorough mastication that a good cereal dentifrice is very beneficial, using corn, oats, cream of wheat, or any coarse and grainy substance, and brush the teeth and gums vigorously after each meal and before retiring, giving a half rotation to the brush. The mouth should be thoroughly rinsed after each brushing, as there is some difficulty in removing the cereal. I do not approve of the use of a very stiff brush without a dentifrice, and I consider the place for all inorganic dentifrices is on the outside of the mouth. They may serve a good purpose for cleansing metals and marble, but should not be used on organized tissues.

103 State Street.

DISCUSSION.

Dr. G. V. I. Brown, Milwaukee, Wis.—The essayist states, after describing the simple forms of gingivitis, that gingivitis more often proceeds from the apices of the roots toward the gingival margin than from the gingival margin to apices of the roots. That was the point Dr. Talbot made clear some time ago. He said in our treatment of pyorrhea alveolaris we pay too much attention to palliative treatment. He said he considered our diseased gums from the gingival margin, whereas a mild inflammatory process was going on very much in advance of what we could see with the naked eye. Upon that simple fact I have based what treatment I have attempted ever since, and I think when we realize that, we have got all we need for that which comes directly within our own province. We must admit that every general condition which interferes with the excretory organs in any way will certainly render the tissues of the body more susceptible to the inflammatory process than they would be otherwise. If an interference with these organs in the performance of their natural functions will render the cure of any inflammation more difficult, and contraindications would complicate this state of affairs, so far as we are concerned we have all we can do to take care of the local matter. If we recognize the fact that these inflammatory changes are going on beyond the point we can reach in our treatment, beyond the point our profession is capable of exploring, then we must in some way relieve the local condition, and it is impossible to have a case of pyorrhea where you have that contraindication without having the occlusion of the jaws interfered with, and you can not cure that condition locally as long as the occlusion of the jaw is imperfect, and by this irritation of the surface you continually increase that inflammatory condition in spite of all you can do. I will probably bring down a storm of scientific criticism upon my head, but if I can not do more than to bring out the valuable point Dr. Talbot brought out years ago, I shall be satisfied.

Dr. Eugene S. Talbot, Chicago—I am very much pleased with the conclusions of the essayist and the remarks by Dr. Brown. I am glad Dr. Brown has given this subject so much attention since I first outlined the pathology of this trouble. Both essayist and Dr. Brown are correct. Dr. Carpenter has taken up the local condition and causes of the diseases, and Dr. Brown has taken up the constitutional side of the question. There are certainly two factors in producing simple gingivitis, the local and the constitutional. I must, however, go back further than either of these gentlemen in order to get to the real condition and cause and that is the point where individuality must obtain treatment. Transitory structures are involved and the fact must not be lost sight of that the jaws and teeth are passing from a large and strong jaw to an extremely weak one; these changes are going on very rapidly, indeed, with our present mode of living. Dr. Carpenter said in his paper that the lower animals are not involved in this change in their "natural or undomesticated" state. These structural changes go on in domesticated lower animals as they do in man. Dogs have undergone a change, as Dr. Kiernan said yesterday, in certain structures the same as man. Gingivitis occurs in horse and cow in the fall of the year when the animals are taken from the pasture to the stable. The horse after being put in the stable will catch hold of the manger and pull with his teeth making a piping sound. This indicates there is irritation in the gums with resultant inflammatory action. The same is noticeable in the cow in trying to grind her teeth. In transitory or unstable structures inflammation sets in quicker than in any other structures. This is true alike of the appendix and the jaws and teeth. Wherever these changes occur in the systemic condition from disorders like indigestion or diseases such as typhoid fever, it is manifested here. Especially is this true of little children. I have noticed particularly in degenerates, such as in the deaf, dumb, blind and idiots, that there is marked inflammation of the gums. So the abnormal condition of the structures must not be unheeded in the treatment. A writer in the June *International Dental Journal* of Boston claims that the gum should not be massaged. He has a brush composed of badger's bristles, a very soft brush. He claims that if at all only a very mild massage should be done and the fingers should be used. The opposite from actual experiments seems to me alone justifiable. The essayist states that a very strong brush should not be used; I should use the stiffest brushes upon the gums. It is not the gum that is being injured as the alveolar process is absorbing away; it is the interstitial tissue. The gums become involved, but there is no danger of absorption. The blood is forced out of the gums and they contract to secure a healthy alveolar process. Absorption of the gum is not the danger, but absorption of the alveolar process. The gums contract down to it. The gum should be massaged with a stiff brush and tincture of iodin should be used to reduce this inflammation. Inflammation takes place in nearly every patient. The blood shows that pathologic conditions have set in. To reduce the gums to their healthy condition, use a stiff brush and massage them three or four times a day.

Dr. Vida A. Latham, Rogers Park, Ill.—When we speak of simple gingivitis, the majority of people consider at once pyorrhea alveolaris! Let us take a case for example: A woman comes to your office, an apparently healthy case, perhaps the mother of a family. Her general history is good but she may be a little anemic. She has a magnificent set of teeth, but we meet with a little discoloration of the gums. What is it? It is nothing more nor less than the outcome of simple gingivitis. I do not care to hear anything about the pyorrheal condition, or whether it is a passive or active congestion, or if by pressing with the finger you can get blood or pus, provided it has reached the suppurative stage of the inflammatory condition. That is not the point. We mean simple gum infiltration. Therefore, I would like to have somebody go back to the beginning and give us the early stages of what may become sooner or later interstitial gingivitis. For example, here is a case of lung disease. Is it pneumonitis? You may have it in the upper lobe or the second lobe or all the lobes, but it may enter upon resolution, clearing up everything and the parts return to the normal. If you get a pneumonitis and it does not all resolve you may then get an increase of fibrous tissue, which would be called a cirrhosis or interstitial or fibroid pneumonia; you may have an increase in size or a decrease and the result is the same; it is a thickened sclerotic condition. It is this distinction which I think our dental pathologists have confounded with the later stage. When we are called upon to treat this early simple irritated state we fail to recognize or treat it previous to its entry into one of the most serious and advanced terminations of inflammation. It may certainly become fibroid, abscessed, ulcerated or even gangrenous. I prefer to ask you to deal with the simple congestive or irritated condition which is the early simple gingivitis even if recession be present, or swollen edematous puffy tissue of the gums so well known in unclean mouths. Here is a child that is degenerate, but the simple and interstitial inflammation is not necessarily a degeneration. I think our dental pathologists are very lax in this matter. We have different forms of gingivitis, some are chronic, some are acute. The gum has receded, there is a great deal of hyperesthesia, a continual irritation, everything the patient touches makes the teeth ache. I would like to have a remedy for this early condition. I have several cases on hand which I do not know how to treat. I have tried massage, local and general treatment; I have cleansed the teeth. I have used anesthesia to find salivary calculi on the roots and I can not find much wrong. These are cases I wish a special classification for. Why should we not have early simple as well as the chronic or interstitial gingivitis with recovery. This is a condition I would like to bring to your notice and ask for a remedy as well as for more research into this, the very beginning of the disease, and so prevent the loathsome and dreaded "pyorrheal states" and its recession or absorption of the alveolus as illustrated so ably by Dr. E. S. Talbot in his work on so-called "Pyorrhea Alveolaris."

DR. G. V. I. BROWN, Milwaukee, Wis.—The trouble is we have taken too narrow a view of this matter. In pyorrhea or gingivitis, when you come to cut off the state of inflammation and classify under one name or another a condition which to-day may be one thing and to-morrow another, you are making a classification which will not stand, but this distinctive condition which we recognize as pyorrhea is simply one form of the condition which we have brought to our notice as dentists. An inflammation may be destructive or constructive. We have just as frequently in some cases a condition which causes a change in the pericementum. This is evident to us, particularly when a tooth is attempted to be extracted. The process comes away with it; there has been a change in the membrane, that which has formed this union of the surrounding bone to the pericementum in a way that has become almost inseparable. Under these conditions we find many patients. A large number of the chronic neuralgias come from this condition of the membrane. In addition to this, we have certain structural changes in the dental pulp itself. These changes all occur as the result of some nervous disturbance due to the excitement of the centers which control the muscles of mastication. They continue working and grinding, which causes a local and general disturbance which is greater than we have any idea of. I think I have a half bushel of casts showing the stress due to habit, and in these cases sometimes a paroxysmal pain occurs every few minutes and continues for years until the patient is a physical wreck. I have a number of cases now that have had to be cared for as a result purely and simply of this habit. Again we have a pyorrhea which we recognize easily, and we have pulpitis due to the loss of the surrounding tissue. But these conditions due to the same causes aggravate all these other conditions, because when the excretory organs are out of order the nervous conditions are worse. Taken in its broad sense there is no longer any question as to the marked etiologic factor in pyorrhea. The way to all this has been made clear by Dr. Talbot.

DR. A. E. BALDWIN, Chicago—Before this subject is passed, I want to claim that I believe that these gentlemen have been discussing something else than the paper. The paper is on the subject of simple gingivitis, simple inflammation of the gingiva or gum. You must not say in an assembly of sane people that you can have a simple inflammation and have it absorbed by the body. I do not think any sane man would make such a statement. I may say to you that I learned years ago in the medical college that there could be simple inflammations, and the meaning of the word "simple" is "without complications." We may have simple inflammation of the lungs; we may have simple inflammation of the pleura; we may have simple inflammation of the gums, and when anybody gets up before this Section and says the best way to quiet an inflammation is to jump on it, to tread on it, to strangle it, to scarify it, it seems to me wrong. I think oftentimes with some of these local irritations we are not discussing interstitial, but we are discussing simple gingivitis. The amount I do not know about a great many of these subjects would fill a book, but there are some things I feel I do know, and I know that simple gingivitis is simply an inflammatory process of the gum itself, not complicated with suppuration, not complicated with anything, but just what the name means. About as good a plan as you can follow is to give the part rest, quietude, something soothing. I believe that is our first duty. There may be complications that may be treated and treated wisely, but it seems to me this talk has been largely upon a question that is far from the paper as read.

DR. GEORGE T. CARPENTER, Chicago—I would like to say a word in closing in regard to the word "simple." It was my intention by the use of this word to include only the gingivitis in its simplest form and to avoid "interstitial gingivitis," or pyorrhea alveolaris. It was distinctly understood that the term "interstitial gingivitis" should not be used so as not to have the subject misconstrued. I stated certain conditions as not coming under the head of this paper, but emphasis was placed on the simplest conditions. This does not even result in ulceration in many cases, but it is simply an evidence of that slight affection of the gingival margin that does not get well. These conditions lead on to something more serious, and what we are trying to do is to get at the cause and treatment of this condition. Dr. Brown speaks of the local causes, but I spoke of the constitutional causes. A constitutional cause is directly responsible for this condition. As I said in my paper, it is almost an impossibility to establish this condition unless there is a departure from health. There may be no sign of anemia, but where there is a departure from health or a disturbance of the circulation we establish gingivitis.

In speaking of the animals in their natural state, I did not take into consideration dogs, horses and cows for the reason that they are domestic animals and are fed by man. I mean the wild animals, and I have never found a case of gingivitis in wild animals. There may be cases, but not as a rule. It is under this artificial condition only that we find gingivitis.

In reference to the tooth brush, its use is simply applying Nature's cleansing materials to the mouth. We are not chewing inorganic substances. Our teeth are only intended to masticate vegetable and animal substances. and through contact of these substances to the teeth and gums is Nature's process. That is the reason I object to the use of the stiff tooth brush. I think it is an unnatural process, and I depend upon the cereal more than the stiffness of the brush. The object in this is to give tone to the gum. What we want is to stimulate the blood supply, and we do this with a cereal carried on a tooth brush, which partially takes the place of the failure to properly masticate proper foods.

We see defects in the teeth that we know are only slight, but that will in our judgment become more serious; and we urge the necessity of these defects receiving prompt attention. We do not place the same importance to defective conditions or disease of the gums. That is why there are more teeth lost in this condition than from caries. As long as a tooth is perfectly sound there is no need of the dentist, but as soon as we see any changed or defective condition we should always be serious with our patient and explain the danger. When the gums are diseased there is something the matter with them, just as much as if there were a dozen cavities in the mouth, and no dentist would allow decay to go on. They would call it imperfection of the teeth. This is simple gingivitis, and it is growing worse instead of better and will ultimately result in the loss of those organs. We want to sound a warning and educate our patients up to this fact and give them to understand that we mean exactly what we say, and the loss of a few teeth with an explanation will probably result in an education that will do much good.

Dr. R. R. Andrews, Cambridge, Mass.—I have had considerable discussion with Dr. Sargent on the want of use of the teeth by children. It is a fact that children eat too much of soft mush; they do not use the teeth enough, and although it is a very disagreeable habit, I think there would be an improvement of the teeth if the children were encouraged to chew gum. There is no question but what the chewing of gum is a good stimulative process and puts the teeth in a good, healthy condition. Our children do not live right. They are fed on these soft materials and their teeth do not have the use they were meant to have.

There is another thought that occurred to me. Dr. Williams has, without any doubt, demonstrated that there is in the mouth, more particularly on those teeth where the mouth is full of decay, a microscopic form of germ. He has demonstrated that this micro organism, the leptothrix bacillus, is constantly going to the extremity of the roots, myriads upon myriads. Let any one have a patient take a little iodin and put it around the teeth. I have had patients come to me and ask how they should keep their teeth clean. I told them to brush them morning and night and put a little iodin on and they will be surprised at the result. I think great good comes from the treatment as practiced by Dr. D. D. Smith, of Philadelphia. He takes a piece of orangewood of a V-shape and goes around the teeth inside and outside the occlusal surface. Dr. Smith makes the astounding statement that bad breaths are cured, that a pyorrhea alveolaris is cured. Dr. Smith has under his care a patient who has been treated for two years for pyorrhea, and he has recently been using this treatment, stimulating the gums with this stick, going under the gums as well as cleansing them thoroughly, and he made the statement before the Boston Dental Society that he had never had so much success as he has had with this method after using it only three months. There is certainly something in that. These germs are hidden under the gum, but this stick goes all around and under the gum, thoroughly cleansing it, and in that way he gets rid of a great deal of this injurious matter.

Orthoform Test for Gastric Ulcer.—Mennini states in the *Riforma Medica* of May 18, that it is possible not only to differentiate a gastric ulcer with orthoform, but also to determine its location. After ingestion of one gram of orthoform dissolved in half a glass of water, the pain from an ulcer vanishes in twenty minutes, and does not reappear for three or four hours. The analgetic effect is not experienced in certain cases unless the patient lies in the ventral or dorsal decubitus, according as the ulcer is located in the front or rear wall of the stomach. The orthoform has no effect in cases of simple gastralgia with the mucosa intact. The pain continues uninfluenced by it.

MILITARY DENTAL PRACTICE—ITS MODIFICATIONS AND LIMITATIONS.*

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What shall the new military practice consist of? What are its limitations and modifications, and how must the conservative civil practice be modified so as to best serve the interests of the army and the individual soldier? These are the questions with which it is the province of this paper to deal.

There are certain branches of dentistry which to-day, as it exists, it would seem wise to eliminate altogether, namely, prosthetic dentistry, orthodontia, crown and bridge work, and gold filling.

Prosthetic dentistry would be impracticable for the following reasons: 1. The appliances necessary for the construction of artificial dentures are cumbersome and would add that much more to an already overburdened transport service. 2. The time required to do such work is more than could be spared, owing to the few surgeons assigned to the service.

That orthodontia would have no place in military surgery is self-evident to any dental surgeon.

Crown and bridge work would hardly be feasible, except, perhaps, at certain army posts, for the reason that to be of any value it must be done with a certain nicety requiring much time, many additional instruments and much expensive material.

Gold filling is placed in this category for much the same reason. Gold filling, to be of any value, must be done under the most propitious circumstances, requiring a good chair, good assistants, dry, clean surroundings, many fine instruments and plenty of time; the item of time is the most important in this case, as, with the present limited number of surgeons, to give the necessary time to one man would probably rob others of needed attention.

Eliminating, then, all the above, there still remains work enough for the most energetic and able men.

THE OUTFIT.

Let us now briefly glance at the positive side of the question. Other things being equal, the dental service will be popular in the army, as it takes up little room, demands few transportation facilities, and adapts itself to the prevailing conditions easily and uncomplainingly. The outfit, then, should be as small as is consistent with good work; everything should be snugly packed and capable of being unpacked and packed again in the shortest possible time. One of the lessons taught by the Boers in their struggle for independence is that the modern army must return to the practice of Julius Cesar, where luggage was reduced to the minimum. A portable headrest attached to an ordinary chair would have to take the place of the ordinary dental chair, except at regular army posts. Anesthetics could be given on the operating table of the general surgeon, or on a cot bed. The instrument case could be mounted on a tripod or a table, and made to take the place of the usual cabinet.

An instrument sterilizer should, by all means, be made a part of the outfit, such as a Schering formaldehyde sterilizer, or the smaller one as modified by Dr. Stanton of New York, or the formaldehyde sterilizer devised by Dr. Low of Buffalo, which is perhaps more cheaply and easily operated.

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* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

Formaldehyde gas must prove to be the ideal sterilizing agent in military as well as civil dental practice. It requires a very small quantity of spirits to generate the gas. As previously pointed out to the profession by the writer, boiling is the cheapest and most ready method of sterilizing where the nature of the instruments and appliances admits of boiling; but with dental instruments we have the mirrors, which can not be boiled; also corundum wheels, engine hand-pieces and many other things. But whatever the method, it is to be hoped that the dental surgeons will not lag behind the general surgeons in this respect.

OPERATIVE DENTISTRY.

The dental surgeon will at first be most often called upon to relieve pain, either by extracting or treating exposed pulps, alveolar abscesses, etc., and here is where the high character of the men selected by our excellent examining board will have a chance to show itself, and prove to the army and the nation that the modern dental surgeon is something more than a mere tooth-puller.

Extracting may have to be done more often than in civil practice; but by using good judgment and adopting means adapted to the exigencies of the service, extracting may be reduced to the minimum.

Certain pulpless molar teeth, which in private practice would be sterilized and filled to the ends of the roots, might be saved by using some of the mummifying methods—preferably Miller's—always with some filling over it that could easily be taken out, if need be, and the pulp chamber and canals redressed. In certain cases, extracting might be avoided by opening into the pulp chamber at the cervix and waiting until the case could have more thorough treatment. At any rate, root-filling should not be attempted unless the operator has the time and the facilities to do it thoroughly.

In the minds of the laymen, or the common soldier, "nothing succeeds like success," and in the first years of this experiment (for such it is evidently considered by the government) it will be well to undertake nothing which does not promise to succeed.

In extracting and other surgical work it is to be hoped that anesthetics, either local or general, will be used as they would be in civil practice. Even a soldier ought not be called upon to endure more pain than is necessary. Besides, many will be either in the hospital or on the verge of it, when rough treatment and shock might be the last straw. Any tendency to become brutal or rough on the part of the dental surgeon should meet with prompt rebuke or dismissal from the service.

The dental surgeon will have plenty of opportunity to observe and treat diseased conditions of the soft and osseous tissues surrounding the teeth. If they are carefully observed and accurate records kept, much will be added to our meager knowledge of these conditions. The dental surgeon will see conditions caused by both mercury and the need of mercury, and perhaps will be able to get truer histories in the army than out of it.

That dental surgery merges into oral and general surgery, so that a dividing line can hardly be drawn, goes without saying. Hence, it is to be expected that the dental surgeon will have much to do with fractures and gunshot wounds involving the maxillæ. The use of interdental splints made of vulcanite or swaged metal would hardly be applicable in military practice for the reason given above concerning prosthetic work. In their place there could be substituted something after the Angle system of easily adapted bands and ligatures, or an easily made splint consisting of metal bands connected by hard solder to heavy platinum and gold, or iridio-platinum, wire—the piece made loosely fitting on a cast gotten from a modeling composition impression, and cemented in place. An interdental splint, in many instances taking the place of vulcanite, may be made quickly and easily by cooling and trimming two side "bites" of modeling composition. In cases of resection of a considerable portion of the inferior maxilla, such a side "bite" of modeling composition, put in place immediately, answers an excellent purpose.

IDENTIFICATION BY THE TEETH.

For the purposes of identification, after disaster by fire or flood, or other causes, where clothing is destroyed or the soft parts decomposed, experience has proved that identification by the teeth is the only reliable one. The condition of the bodies after the disaster to the battleship *Maine*, and after the catastrophe of Bazar de la Charité in Paris, May 4, 1897, and in many other instances, prove this. Therefore, it is urged that the Government be memorialized to the effect that all officers and men in the army and navy, and all who shall be mustered into the service, shall have charts and casts made of their teeth by the dental surgeons of the army, or others appointed for the purpose, such charts and casts to be properly inscribed and filed with the proper departments for reference in case of death or desertion.

It would seem that with the training the dental surgeon has received in aseptic methods and in minor surgery, he might be an excellent assistant to the general surgeon in emergencies, after battles, etc., thereby tending to promote mutual regard, and a better understanding between the two professions, now separate, but destined to become one.

OPENING DISCUSSION ON "MILITARY DENTAL PRACTICE—ITS MODIFICATIONS AND LIMITATIONS."*

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The passage of the Army Reorganization Bill with its section creating a Corps of Dental Surgeons for the U. S. Army, makes an epoch in the history of modern dental surgery; an epoch which has never had its counterpart before in the history of the world, the influence of which is destined to be far-reaching in its beneficent results, and of great importance in the elevation of our educational and professional standards.

When we take into consideration the fact that modern dentistry covers, in its growth and development, a period less than the lifetime of many individuals, we have good reason to be proud of its achievements. Sixty years ago there was no such thing in existence as a dental college; a dental journal had not been thought of, or a scientific dental society organized. The practice of dentistry at this time was, with few exceptions, in the hands of the barbers and blacksmiths. The few earnest scholarly men who had entered its ranks were desirous of lifting their specialty out of its low estate, and by education and scientific training make of it an honorable and worthy calling. In this endeavor, however, they met with no encouragement at the hands of their confrères in the medical profession, but, nevertheless, with these great odds against them, engendered, not by malice, but by the narrow view taken by those unfamiliar with the capabilities and possibilities of develment which lay in this infant specialty, they moved rward and laid the foundations of what has proved be one of the greatest specialties in the whole field f medicine.

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* See preceding article.

We have special reason for congratulation also in the act that the Congress of these United States was the rst legislative body in the world to formally recognize he *value* and *need* of the beneficent services of our specialty as a department of military medical practice, nd that we have been given an opportunity to prove he wisdom of its action to our country and the world.

The whole question, however, of placing dental surgeons in the Army was looked upon by many of our national legislators in somewhat of the light of an experiment, and in a certain measure this is true of the War Department and of the Surgeon-General. For this reason, when the bill was framed it was thought best to provide for the organization of the dental corps upon the contract system, as by this system it would be an easy matter to discontinue it if it should prove unsuccessful; while upon the other hand, if its service was a success, and found to be an indispensable part of Army medical practice, the Corps could be made permanent by amending the law so as to make its members commissioned officers.

The examinations of the Dental Corps and the selection of the outfits have been placed in the hands of an Examining and Supervising Board of Dental Surgeons, subject to the approval of the Surgeon-General and the Secretary of War. These officers have invariably sustained the Board in all of its work; have given them every facility asked for, and rendered every assistance possible in planning the organization of the Corps and insuring its future success in the field.

European nations will be interested in the plan of organization of our Army Dental Corps, of its personnel, and the results of its professional services. Upon the success or failure of this enterprise will depend in a large measure the introduction of a similar service into the armies of other nations. It is to be hoped, therefore, in the interests of humanity that it may prove successful.

I have been interested in reading the paper of the essayist, and feel like complimenting him upon his apparent grasp of the subject under discussion. His suggestions as to the modifications and limitations of military dental practice are in many respects good, but it will not be necessary to confine Army practice within such narrow limitations as he has outlined.

The general suggestions which he has made and many more of a specific nature have formed the subjects of much earnest consideration upon the part of Surgeon-General Sternberg and the Examining and Supervising Board, and not until each question has been carefully weighed and the consequences of its adoption or rejection examined from all standpoints, has final action been taken. The progress of organization has been necessarily slow, for there were no established precedents to guide the Board in its actions, and no past experience to enlighten it. It has, therefore, been obliged to begin its work at the very foundation, striving to lay this *firm* and *sure*, and then gradually to rear upon this the superstructure of a finished organization. The organization of the Dental Corps is yet in the experimental stage; the authorities must therefore carefully feel their way and adapt the service to the peculiar demands of military life and movements, making such changes from time to time as experience and foresight shall dictate.

With the approval of the Surgeon-General, I herewith present in brief outline the plan upon which the Army Dental Corps is organized. This outline comprises:

1. The official status and pay of the Army Dental Surgeon.
2. Examination of candidates.
3. Assignment to duty.
4. Regulations governing the Dental Corps.
5. The supply table.
6. Nosological table and system of keeping records.

THE OFFICIAL STATUS.

The Army Dental Surgeon belongs to the regular establishment, and according to the law which created the Corps, he will serve the officers and enlisted men of the regular and volunteer armies. He is employed as a Contract Dental Surgeon, having the *relative* rank of a first lieutenant. His pay is $150 per month, and quarters when serving with troops. All instruments, apparatus and materials are furnished by the Medical Department that are necessary for conducting his practice and performing his official duties.

THE EXAMINATION OF CANDIDATES.

The examinations consist of *a*, physical condition; *b*, written and oral questions upon the studies of the dental college course; *c*, practical demonstrations in operative dentistry; *d*, practical demonstrations in prosthetic dentistry.

a. The physical examination is conducted by an army surgeon detailed for this purpose, and upon the same general lines as those in vogue for entrance into the other departments of the Army. Perfect health and freedom from physical defect are necessary to pass this examination; but defective eyesight which can be corrected by appropriate glasses does not debar the candidate.

b. Written and oral examinations are conducted upon the following-named subjects, and the candidate must attain a general average of 75 per cent. upon each of them:-Anatomy, physiology, histology, chemistry, physics, metallurgy, dental anatomy and physiology, dental materia medica and therapeutics, dental pathology and bacteriology, orthodontia, oral surgery, operative dentistry, prosthetic dentistry.

c. The practical examination in operative dentistry consists of the following: 1. Examination and recording the condition of the mouth and teeth. 2. Preparation of cavities, 1, by hand instruments; 2, by engine instruments. 3. Instrumentation and technique. 4. Preparation and manipulation of filling materials: gold, tin, amalgam, gutta-percha, oxyphosphate, cement. 5. Insertion and finishing of fillings. 6. Treatment and filling of root canals and preparation of root for pivot crown. 7. Manipulative technique in removal of calcarious deposits. 8. Application of rubber dam, metallic separators, matrices, etc. 9. Diagnosis, prognosis, and treatment of oral diseases. 10. Care of and sterilization of instruments and hands.

d. The practical examination in prosthetic dentistry comprises: 1. Impressions, casts, bite and articulation (occlusion). 2. Construction of denture in vulcanite. 3. Construction of dies and counter-dies from impression to completion. 4. Construction of swaged plate, with metal and rubber attachment. 5. Construction of inter-dental splints. 6. Construction of Richmond crown.

Upon all clinical or practical demonstrations the candidate must attain a general average of 85 per cent.

The reason for this higher requirement in the practical branches is made evident by the statement that practical men are needed in the service, not theorists. But it may also be stated that practical ability alone would be of little value in military dental practice. The dentist to be successful in this new field of practice must be thoroughly informed upon all those subjects and theories which form the foundation of modern dental surgery. He will need to be self-reliant and capable of conducting any case that may come under his especial care, no matter how serious it may be, for he will many times be so located that he can not obtain the advice of a consultant in his specialty; while, upon the other hand, he may be, and that frequently, called in by the post surgeon as a consultant in cases which present oral or dental lesions; or which by reason of certain symptoms the surgeon is led to believe may be dependent upon some obscure dental or oral malady, and upon which he desires an expert opinion to assist him in an intelligent treatment of the case.

ASSIGNMENT TO DUTY.

As rapidly as the candidates have passed the Examining Board they have been assigned to service in the Philippines and Cuba, for the reason that our troops located in tropical climates are in the greatest need of the services of the dentist. When these demands are satisfied in one location the dentist will be assigned to another station and thus moved about from place to place, wherever his services are most urgently needed. The number of dentists is so few, thirty in all, and the army so large, something over seventy thousand, that there is likely to be an abundance of employment for all those who enter this service. The opportunity, however, for a large and varied scientific and practical experience along professional lines, offered by the establishment of the Army Dental Corps, will be very great, and ought to prove a tempting inducement to the really progressive young man.

REGULATIONS GOVERNING THE DENTAL CORPS.

The following regulations having received the approval of the Honorable the Secretary of War, become, with the General Regulations bearing upon officers of the Army, the law governing contract dental surgeons:

Candidates for appointment as dental surgeons must be not less than 24 nor more than 40 years of age. They must be graduates of standard medical or dental colleges, trained in the several branches of dentistry, of good moral and professional character, and prior to appointment will be required to pass a satisfactory professional examination before a board of dental surgeons convened for that purpose by the Secretary of War.

Contracts with dental surgeons will be made for three years, but may be annulled at any time by the commanding general of a military department, after official investigation, for conduct to the prejudice of good order and military discipline, or by the Surgeon-General when in his opinion a termination of the contract would be in the interests of the service.

Dental surgeons are attached to the medical department and will be assigned to duty in accordance with the recommendations of the Surgeon-General of the Army or the chief surgeon of a military department.

A dental surgeon when assigned to a station will apply to the post commander for a suitable operating room. If no other room is available the surgeon of the post may assign him a room in the hospital.

Each dental surgeon will ordinarily be allowed one enlisted man as an assistant, who will be detailed from the acting hospital stewards or privates of the Hospital Corps, and whose duty it will be to assist the dentist in his operations, in caring for the instruments and other public property, in keeping the records, and in the performance of such other official work pertaining to this position as he may be directed by the proper authority to do. When a member of the Hospital Corps is detailed as dentist's assistant he will receive commutation of rations at the rate of $1 daily, and will be provided with a suitable room as quarters by the Quartermaster's Department, except while on duty at a post, when he will be attached to the Hospital Corps or other organization for rations and quarters. Necessary dental instruments and supplies will be purchased by medical supply officers under instructions from the Surgeon-General and in accordance with a supply table to be approved by the Secretary of War.

Dental surgeons will be held strictly responsible for all instruments and supplies issued to them and will be governed by army regulations and orders now in force, or hereafter to be issued, with reference to accountability for government property.

In accordance with the act of Congress authorizing their employment, dental surgeons will "serve the officers and enlisted men of the regular and volunteer army." The families of officers and civilian employees attached to the army are not entitled to their services. In this connection acting assistant surgeons are to be regarded as commissioned officers.

Dental surgeons will operate between the hours of 9 a. m. and 4 p. m. only upon those officers and enlisted men who are entitled to their services. They may operate upon others not entitled to free service before and after these hours when their services are not required by those entitled to them, but material issued to them by the Government will only be used in operations upon officers and enlisted men of the army.

Dental surgeons will not perform any operation upon officers or enlisted men of the army or prescribe medicines for them other than those necessary for the treatment of the teeth and gums. This prohibition does not apply to cases of emergency where no medical officer is within reach, and where a dental surgeon is able to render the necessary surgical assistance to meet the immediate emergency.

Emergency work, whether for officers or enlisted men, should always have precedence. Plate work or restoration of teeth by any method will only be done for those who have lost teeth in the service and in the line of duty. For plate work or filling teeth only the cheaper materials will be supplied, but gold may be used, if the operating dentist sees fit to use it, at the expense of the individual operated upon.

Enlisted men requiring the services of the dental surgeon will, at an hour prescribed by the commanding officer, be conducted to the designated place under a non-commissioned officer, who will take with him and hand to the dentist a list of those reporting for treatment. This list will be entered in a daybook ruled in columns for surname, given name, rank, company, regiment, etc.; all headings to be the same as those borne on his monthly report.

All cases requiring treatment involving future appointment will be so noted, and the others will be marked according to the circumstances, as "treatment unnecessary," "further treatment unnecessary," "should be sent to the surgeon," etc. When future treatment is necessary the dentist will forward a card as follows:

..........................19....

The Adjutant,

....

Sir:—I have the honor to ask that......................

be directed to report to me from ....m. to ....m. on ....

instant for treatment. Very respectfully,

....

Dental Surgeon.

Dental surgeons will submit a monthly report in duplicate (on prescribed blanks) of all official work done by them, giving all required data in every case in which professional services have been rendered. This report will be an exact copy of the register kept for the period. One copy will be sent on the last day of the month to the Surgeon-General and one to the chief surgeon of the department in which the dental surgeon is serving.

THE SUPPLY TABLE.

This table is too long to present in this place, but it may be stated that it includes a portable dental chair and a dental engine, packed in separate cases; burrs, mandrels, stones, discs, etc. Excavators, chisels, scales, plastic pluggers, gold pluggers, rubber-dam clamps, clamp forceps, dam punch, extracting forceps, elevators, steam sterilizer, etc., in fact all of the instruments and adjuncts that are really necessary to perform any operation upon the teeth, except for crowns and bridges. Each outfit contains medicines and supplies of filling material sufficient for three months' service. The smaller instruments and the supplies are packed in two strong cases, arranged with trays and receptacles to hold the instruments and supplies in place. The whole outfit when cased and crated weighs about 450 pounds. To protect the cases from rain and dampness they are enclosed in canvas covers. The general hospitals, and such other posts as may be designated by the Surgeon-General, will be furnished with an additional outfit, consisting of a regular office operating chair, Allan bracket, cuspidor, instrument case, extra extracting forceps, and a full laboratory outfit for constructing vulcanite plates, swaged metal plates, interdental splints, crowns and bridgework.

NOSOLOGICAL TABLE AND SYSTEM OF KEEPING RECORDS.

The ordinary system of keeping records in civil practice, by means of charts, could not be employed in military practice, for the reason that it would occupy too much space. As a substitute for this the following system has been devised and has received the approval of the Surgeon-General:

DISEASES AND INJURIES OF THE TEETH AND MOUTH.

Abrasion (mechanical).
Abscess of the jaws (associated with impacted teeth).
Calcification of the pulp.
Caries.
Cysts of the jaws (associated with devitalized teeth).
Dento-alveolar abscess.
Erosion (chemical).
Fractures of the teeth.
Hemorrhage (following extraction).
Hypertrophy of the pulp.
Hypertrophy of the gums.
Hypercementosis.
Necrosis of the teeth.
Pericementitis, acute.
Pericementitis, chronic.
Pulpitis, acute.
Pulpitis, chronic.
Pyorrhea alveolaris.
Resorption of the alveolar processes.
Salivary deposits.

Note: The duties of the dental surgeon will ordinarily be confined to the treatment of such cases as are directly associated with the teeth and gums; but occasions may arise when his services would be required as a specialist in the treatment of diseases and injuries of the mouth and jaws, such as cysts of the salivary ducts, empyema of the maxillary sinus, fractures of the jaws, gingivitis, necrosis of the jaws, facial neuralgia, stomatitis and tumors of the gums and jaws, etc.

CLASSIFICATION OF THE TEETH.

1. Superior Central Incisors.
2. Superior Lateral Incisors.
3. Superior Cuspids.
4. Superior 1st Bicuspids.
5. Superior 2nd Bicuspids.
6. Superior 1st Molars.
7. Superior 2nd Molars.
8. Superior 3rd Molars.
9. Inferior Central Incisors.
10. Inferior Lateral Incisors.
11. Inferior Cuspids.
12. Inferior 1st Bicuspids.
13. Inferior 2nd Bicuspids.
14. Inferior 1st Molars.
15. Inferior 2nd Molars.
16. Inferior 3rd Molars.

In designating the teeth, and in recording all operations upon them, the dental surgeon will indicate the tooth by the following plan, using the letters R. and L. to designate the right and left sides, and the figures 1, 2, 3, etc., to designate the tooth. Examples: R. 1, Right Superior Central Incisor; L. 14, Left Inferior First Molar.

CLASSIFICATION OF CAVITIES.

Simple cavities on exposed surfaces.

Incisors and Cuspids.	*Bicuspids and Molars.*
A. Labial.	D. Morsal.
B. Lingual.	E. Buccal.
C. Morsal.	F. Lingual.

Simple Approximate Cavities.

Incisors and Cuspids.	*Bicuspids and Molars.*
G. Mesial.	I. Mesial.
H. Distal.	J. Distal.

Compound Cavities.

Incisors and Cuspids.	*Bicuspids and Molars.*
K. Mesio-labial.	R. Mesio-morsal.
L. Disto-labial.	S. Disto-morsal.
M. Mesio-lingual.	T. Morso-buccal.
N. Disto-lingual.	U. Morso-lingual.
O. Mesio-morsal.	V. Mesio-disto-morsal.
P. Disto-morsal	W. Bucco-linguo-morsal.
Q. Mesio-disto-morsal.	

In recording all operations of filling the teeth, the cavity will be described by the dental surgeon according to the preceding classification, using the letters A, B, C, etc., to designate its location.

Example: A Simple cavity in labial surface of an incisor or cuspid tooth. I—Simple cavity in mesial surface of a bicuspid or a molar. V—Compound cavity in mesial, distal and morsal surfaces of a bicuspid or a molar.

Classification of Filling Materials.

Tin,
Amalgam,
Oxyphosphate,
Gutta-percha.

The kind of filling material employed will be indicated by using the first letter of the word designating that material.

Example: R. 5 Q. A. Tooth, right superior 2nd bicuspid; cavity, mesio-disto morsal surfaces. Filling material, amalgam. If a combination filling is employed it will be designated by the first letters of the words designating the materials used.

Example: L. 7. S. G.-O. Tooth, left superior 2nd molar; cavity, disto-morsal surfaces. Filling material, gutta-percha and oxyphosphate cement.

Exception: The only filling materials furnished for the use of the dental surgeon by the Medical Department are those enumerated above. Gold, however, may be provided by the dental surgeon and inserted for those officers and enlisted men who are willing to reimburse him for its cost. The minimum fee to be $1, and the maximum $2, for such filling.

In recording operations made with *gold* the full word should be written out.

Other operations upon the teeth will be designated by a combination of letters, as follows:

Abscess Lanced—A-L.
Calculus Removed—C-R.
Pulp Devitalized—P-D.
Pulp Extirpated—P-E.
Root-canal Filled—R-F.
Tooth Extracted—T-E.
Tooth Treated—T-T.

One hundred of these record sheets are bound in a book, and form the Register of Dental Operations. Each month the dental surgeon is required to send to the Surgeon-General an exact transcript of the Register of the operations performed during that month, upon blank sheets known as the Monthly Record of Dental Operations. These reports are placed on file for future reference. The Register when filled is transmitted to the Surgeon-General and also placed on file.

These records will form an important means of identification in casec of death or desertion, while to the Pension Office they will prove of value in passing upon those applications for pension which are based upon the loss of teeth while in the service of the United States Army.

They will also prove to be of immense value from the scientific standpoint, in efforts to settle the questions of the relative prevalence and spread of dental caries among men who have been selected for military service, because of their perfect physical condition; as compared with men in civil life. Of the relative increase in this disease resulting from physical and nervous strain of severe campaigns, and of residence in tropical climates. Of the causes and prevalence of pyorrhea alveolaris, gingivitis, stomatitis, and kindred oral affections.

It will be noticed by the Regulations governing the Army Dental Surgeons and the rules laid down by the Surgeon-General, that the only filling materials which will be furnished by the government are tin and the *plastics;* but the dentist is not prohibited from using gold, if the officer or the enlisted man is willing to reimburse him for the material used. (This material he must carry with him at his own risk.) In fact, he is encouraged to use gold by being furnished with instruments and appliances with which to perform this class of operations. He is, furthermore, furnished with an acting hospital steward, whom he is expected to train as an assistant. With such intelligent assistance as this, there is no reason why as good gold fillings may not be inserted by the military dental surgeon as by the dentist in civil practice.

The character of the service which must be rendered in the field, will of necessity be that of meeting emergencies. Relief from suffering will be the first object of the treatment, and the introduction of temporary fillings to protect the teeth from further decay until a more favorable opportunity can be secured for inserting a permanent filling.

The dental surgeon will, however, as a rule, be located at posts and stations of a more or less permanent character, where he can conduct his practice with as much care and thoroughness as is possible with the civil dental surgeon.

Each field outfit is provided with a quantity of modeling composition and impression trays, so that fractures of the maxilla can be treated temporarily by interdental supports made from the modeling composition, while the patient is being transported to the general hospital, where facilities will be found for constructing any form of interdental splint or other mechanical apparatus that might be indicated.

The army dental surgeon is expected to confine his professional services to the treatment of the diseases of the teeth and their associated parts, but the regulations provide that in cases of emergency, when no surgeon is present, he may, if competent, render any assistance that the case may demand.

The dental surgeons located at general hospitals and large posts will be furnished with as good and as complete an outfit for a general dental practice as is found in the offices of the best civil practitioners. At such stations the dental surgeon will have frequent opportunities for the treatment of cases in orthodontia for the children of the officers of the station, or inserting crowns, bridges, and artificial dentures, for the officers and enlisted men, and for their families; while the general hospitals will furnish a certain number of cases of fractured maxilla, that will need to be treated by the construction and insertion of some one of the various forms of interdental splints.

From the foregoing pages it will be seen that the War Department, through the recommendations of the Surgeon-General, has provided for the care and the treatment of the dental and oral diseases of the Army in as thorough and as scientific a manner as is possible under the exigencies of military life and movements. Experience, however, may make it necessary to institute certain changes and modifications in the present system of service, and when such action is proved to be essential to the welfare of the army and an increased efficiency of the Corps, there is no doubt but that the proper authorities will immediately institute such changes and modifications.

DISCUSSION ON MILITARY DENTAL PRACTICE.

Dr. A. E. Baldwin, Chicago—I have been very much interested in this branch of our professional world ever since the talk of its organization in the army has been before us, and especially have I been interested the past year when active steps have been taken towards carrying out this plan. I was pleased with Dr. Hatch's presentation of the subject, and I am much pleased with the discussion, or rather the supplemental paper, given us by Dr. Marshall in connection with this. I feel and have felt from the beginning that the profession at large would be very well represented, in fact, better represented by Dr. Marshall on that Board as an organizer of this branch of army life than any man I know. I have known him for a great many years and sat under his instruction years ago as a student. I have never seen a man who would grasp, arrange and organize matters in the minutest details like Dr. Marshall, which is shown in this paper. I think the army is to be congratulated, and especially the surgeon-general upon having such a man in his department; I shall look with a great deal of interest for the results of this work.

Dr. Charles Chittenden, Madison, Wis.—As an examiner of a number of years' experience, it seems to me it would have been impossible at the first attempt for any Board to have laid out a more practical, complete scheme than that presented here to-day. It fills me with admiration and delight. It is a movement in the direction that shows that such men in our profession as have been put into prominence in this way are equal to the occasion. It makes me proud of the fact that we have got such men. I think we are to be congratulated upon the work of this Board as far as it has been carried on.

Dr. Eugene S. Talbot, Chicago—It occurred to me after that bill was passed that the profession knew very little about the work to be done by the dentist appointed to fill the position in America's new possessions. It is very gratifying to know that Dr. Marshall has received that appointment. The fact that so few men have been appointed or accepted who have applied, augurs well for the standard the Board has adopted. They have already stirred up quite a little commotion in dental journals. Editorials have been written in dental journals and letters have been received showing there is uneasiness. The average dental teacher is of the opinion that all there is of dentistry is simply the filling and extraction of teeth. It is very fortunate for education of the profession that this law has been passed and a number of dentists sent to the field to attend to soldiers. The work of filling teeth is a very small part of the work these dentists are called upon to perform. It has been shown not only in Cuba, but in the Philippines that many diseases, especially gingivitis, affect the jaws of people who suddenly change climate. It is due to the manner the excretory organs are affected by the sudden change of climate, the jaws and teeth become involved, and in a very short time, sometimes in the course of a few weeks, inflammation sets in, the teeth become loose and in many cases drop out. Such conditions appear in the report that Dr. Marshall has made. The fact that a dentist is expected not only to fill teeth and make plates but to perform other duties, ordinarily within the scope of a physician or surgeon, demands that dentists be properly educated along these lines. The average physician has to be posted in the treatment of those apparently new diseases. A man to treat these cases intelligently must understand general medicine. Just how far a dentist would be allowed the conduct of these cases and give treatment remains to be seen. The conditions shown by Dr. Marshall makes it evident that dental colleges will have to advance their course in pathology and that a four years' course is now necessary.

THE TONGUE AS A BREEDING PLACE FOR BACTERIA.*

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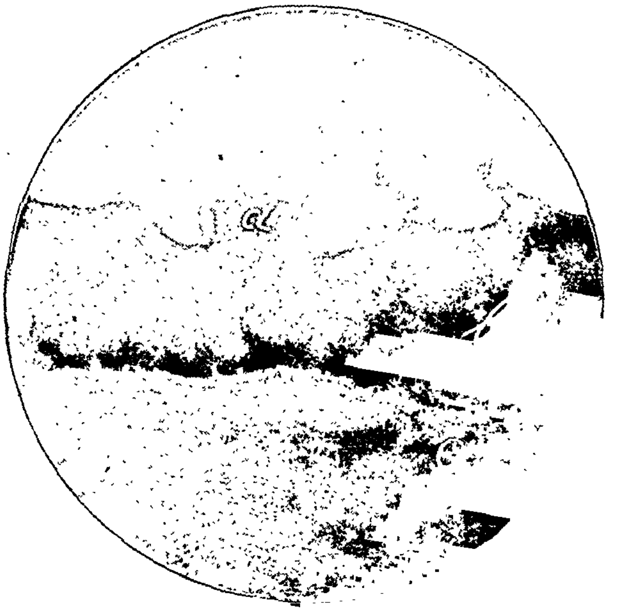
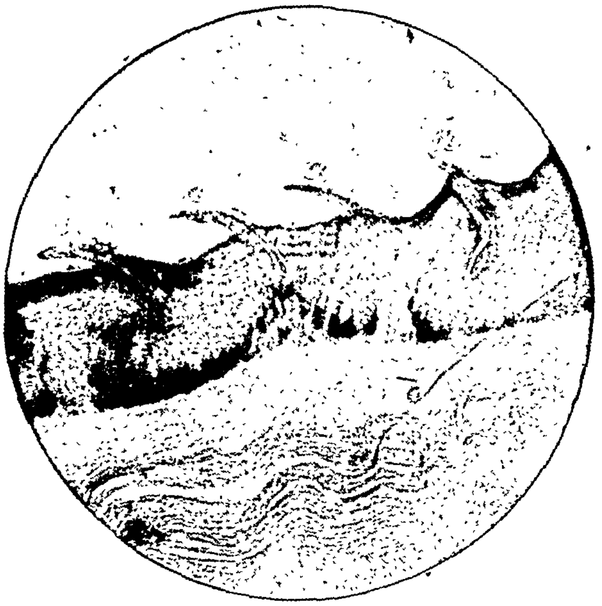
The accompanying photomicrographs of sections of the human tongue show it to be covered with glands, fissures, and spinous processes, the latter slanting at a great angle. It is evident that this surface may hold pabulum and protection for the development and growth of myriads of bacteria. It is possible that cavities in the teeth, and gums diseased from deposits about the teeth, are more prolific, but probably not.

Out of the "seven nutrient media for bacteria in the oral cavity" given by Miller, five are always present on a coated tongue, namely, normal saliva, buccal mucus, dead epithelium, particles of food, and exudations from diseased gums.



Section of Human Tongue.—X 75. aaa, Filiform papillæ; b, mucous membrane; c, muscular tissue; d, circumvolate gland.



aaa, Filiform papillæ; b, mucous membrane; c, muscular tissue.

Formerly physicians were very careful about the examination of the tongue, but at present the diagnostic value of its coating is largely disputed. On the other hand, some of the best physicians make the tongue the principal basis of their diagnosis, especially in gastrointestinal troubles. But the tongue as a breeding place for bacteria is properly attracting more attention at present and cannot justly be ignored.

Van Valzah-Nesbet has said: "The tongue is not a mirror of the stomach, as the ancients supposed, but is a local mirror which reflects only that which comes over its surface."

Dr. A. L. Russell says: "The color is due to the pearly color of the cornified epithelial cells covering the papillæ; to retained particles of food, and the debris of microorganisms, broken down epithelium and mucus. The color of the organ proper is quite as important as its motions, contour, lesions and coating. It is well to remember that in perfect health there is usually a slight, uniform coating of a whitish color diffused over the entire tongue, and that towards the base of the tongue in the region of the circumvallate papillæ there is always a heavy coating, which is increased with any increase of the normal coating of the anterior portions."

Hare says: "The coating may be black from the ingestion of iron, charcoal, bismuth, ink, berries, cherries, or red wine. It may be stained brown from tobacco, licorice, nuts, prunes or chocolate. It may be yellow from the ingestion of rhubarb or laudanum."

F. Forcheimer says: "In some cases the tongue is of great clinical importance and in many others its examination for diagnostic purposes is without value. It goes without saying that no case has been completely examined unless the mouth has been looked into, and yet in a great many cases nothing is gained by this examination. . . . The tongue is affected as the result of local and general conditions. . . . The changes that take place are in the direction of size, shape, color, coating or fur. The blood affects the color of the tongue, as a whole, more than any other cause. The furring of the tongue is that portion of our subject which has been most studied. The fur upon the tongue is, when examined microscopically, seen to be made up of epithelial cells, molecular detritus, and organisms of various kinds, held together by mucus. The organisms are those usually found in the mouth; sometimes we find pathogenic organisms, most frequently the pneumococcus and pus producers. In long-continued fevers, in which the absence of moisture is the predominating cause, we have a peculiar condition of a dry white fur, quite thick and adherent. When there is not sufficient movement of the tongue there results a fur, because fewer of the old cells are removed than would be under normal circumstances. In paralytics we constantly see a furred tongue. The place of deposit of this fur depends very much upon the size and shape of the tongue; where the tongue does not come in contact with other parts of the mouth it will be thick, at the edge it will be rubbed off, leaving a red outline. The most ludicrous mistakes occur to those who overlook the fact that particles of food and medicinal agents give their color to the fur; rhubarb produces a beautiful liver tongue."

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* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

The concensus of opinion of the foregoing investigators seems to be that the coatings of the tongue are local and not indicative of any particular disease, and that the mass contains large quantities of bacteria. These coatings may be accounted for as follows:

The dorsum of the tongue, with its processes, glands, fissures and rough, horny surface is most favorably constructed for holding detritus from its own surface and from other parts of the mouth, also small particles of food and tartar; but the great factor of the formation and persistence of this coating is mucus. The coating forms at times into almost a membrane. This is due to the cementing qualities and the insolubility of the mucus discharged into the mouth.

The easily and quickly forming cakes of mucus in the nostrils is accounted for by the continuous passage of air over its surface, drying it rapidly, carrying dust and foreign matter into its substance which becomes imbedded, producing black, yellow, gray, or other color, dependent upon the character of foreign particles with which the air is freighted. The surface exposed to the air becomes hardest; that next to the membrane is softer. When the mucus finally dries and shrinks, it breaks into patches. curls and drops away, or is removed.

The mucus of the mouth, when separated from the more fluid portions of the saliva, is just as strong a cementing agent as that of the nostrils, and holds the particles of food, dead epithelial cells and tartar into a mass or layer, covering the rough surface of the tongue, also cementing the coating to the slanting, filiform processes. and to the uneven surface. Under this layer the mucus is continually secreted, and the desquamation of epithelium goes on; thus the layer is continuously added to from below as well as from above.

The upper surface of the layer being constantly wet has no opportunity to become dry and break up into patches as in the nose. In persistent mouth breathing it may occur, or portions of the coating may be removed mechanically, producing what is called "patchy tongue." Mouth breathing rapidly drives the water from the saliva, leaving the mucus and causing it to stick the closer and make the layer thicker and more persistent.

Such systemic disorders as tend to produce fever have their effect upon the mucous membrane, among the first of which is the "dry stage." In this stage the mucus is thicker, less abundant and dries quicker. This is as true of the dorsum of the tongue as of any other mucous membrane, hence the coating is usually pronounced and well formed by the time the physician is called to see the patient.

The color of the coating is largely effected by the incorporation of blood from different parts of the mouth, most frequently from bleeding gums, a condition found in a large percentage of people at all times, or it may be colored from many sources as cited, and not unfrequently from bacteria. Miller has cultivated a number of chromatic mouth-bacteria.

In addition to personal observation the foregoing would seem strong evidence to convince one that the coatings of the tongue are from local causes, but may be favored and increased by febrile conditions which precede or accompany almost every bodily ailment. Lack of cleanliness and mouth breathing are undoubted and prolific causes.

The danger from unclean tongues and mouths containing decayed teeth and diseased gums are graphically set forth by Miller. He says: "From a neglected mouth, such as repeatedly comes under the observation of dentists, enormous quantities of bacteria must reach the intestinal tract, in spite of the sterilization of food. In a very unclean mouth examined for this purpose I estimated by culture methods the number of cultivatable bacteria at 1,140,000,000; many of them were doubtless carried to the stomach during every meal, to be replaced by others developed between meals and over night."

Von Kaczorowiski proves clearly enough that the micro-organisms in an unclean mouth, quite independent of those introduced with the food and drink, suffice to produce intense fermentive processes, chronic dyspepsia, etc.

Even with decayed teeth and diseased gums to breed bacteria in great numbers, the dorsum of the tongue still presents the largest surface for their growth; and if it is not cleaned once or twice a day (which practically no one does) it is one of the greatest of all places in the mouth for breeding bacteria.

The mucus which cements the layer of sordes upon the tongue and lips is not soluble in water, ether, alcohol, chloroform, or dilute mineral acids, but is soluble in alkaline solutions, and since nearly all of our food is either acid or neutral, and not one in thousands thinks of scrubbing the tongue as a matter of cleanliness and protection, it certainly is a source of danger and infection, and an undoubted condition for perpetuating disease, especially with invalids.

In order to test the solubility of mucus in alkaline solutions, try scrubbing the tongue with a toothbrush filled with powdered biborate or bicarbonate of soda, and notice how the coat disappears. (Biborate is the least disagreeable.) Protrude the tongue and scrub it from back to front until the coating is removed. When the tongue is to be examined for diagnostic purposes this should be done so that the real color and condition of the tongue can be examined. Then the diagnostic features will be visible and of undoubted value. The use of the brush is much better than to scrape the tongue with a hard instrument. Ordinary tooth powders are not satisfactory because the finely pulverized chalk or other earthy matter remains on the tongue like food and dead epithelium, and the real condition and color of the surface is still unexposed for inspection. Coarse powdered borax or cornmeal, or the two mixed, form a coarse detergent powder very efficient for this purpose, as well as for cleaning the teeth and gums.

A clean mouth undoubtedly prevents much fermentive and putrefactive indigestion, not to mention its comfort and the prevention of tooth decay and diseased gums.

Animals keep deposits from the tongue by its use as a prehensile organ, and by licking their bodies and other substances. Then the saliva of animals in their native state is decidedly alkaline in reaction, and keeps the mucus dissolved much better than does the human saliva. The latter is either acid or very weak in alkaline reaction, a condition accompanying civilized life, and may be found in animals kept as pets or in confinement and fed upon prepared foods.

There is probably no way of estimating the great immunity brought about by keeping the mouth and all it contains perfectly clean. As a prophylactic measure no physician can afford to neglect it, either for himself or his patients.

DISCUSSION ON PAPER OF DR. FLETCHER.

DR. EUGENE S. TALBOT, Chicago—I differ with the essayist in regard to the cause of the coating of the tongue.

Dr. Kiernan, in his paper yesterday, alluded to the alimentary canal in the development of the child. He pointed out that the alimentary canal and rectum were structures completed later in development; that is, that other structures of the body were perfectly developed before the alimentary canal and rectum. That is precisely the condition I have noticed in children. As shown the condition results from this abnormal state of the alimentary canal. This condition called indigestion is very common among neurotic and degenerate children. Neither neurologists or clinicians view it as a local condition. I believe that probably food is taken by the child which does not assimilate in the alimentary canal; hence, the small intestine does not perform its function and markedly furred tongue results. I have frequently seen this condition occur as often as four times yearly in a child. While food has a good deal to do with it, the assimilative and excretory organs do not harmonize in their action and constipation results. I do agree with Dr. Fletcher in regard to the treatment of these conditions. Local treatment will help greatly in clearing up the tongue, especially after the alimentary canal has been put in normal condition. Scraping the tongue may be done well, either with an instrument made for the purpose or with a stiff tooth-brush. Stimulation has most to do with the results. Frequent clearing up of the tongue results after brushing and stimulating it into a healthy condition.

Dr. G. V. I. Brown, Milwaukee, Wis.—It seems to me the essayist has given us a partial proof. What he says concerning the effects of mouth-breathing upon the mucous membrane of the tongue is true in a measure, but if it were entirely true I think we would notice greater changes in the structure of that membrane in patients who are chronic mouth-breathers. While there are quite small changes in the mucous membrane, particularly in the nasal passages, that of the mouth is not materially altered, so far as its permanent form is concerned. I think you all know that I am rather partial to the use of hydrogen dioxid to prepare the mucous membrane for the action of the antiseptic which you are going to use. You may not depend upon the dioxid as an antiseptic *per se*, but there can be no difference of opinion as to the value of preparing the mucous membrane by using that and then following with any germicide solution. In the treatment of patients with cleft palate and other operations of the mouth, the cleansing of the mouth every half-hour, in addition to repeated washing through the nose, perhaps once or twice a day, is a matter of vital importance, and is beneficial in two different ways: One is that the effect of the germicide used is constructive to the mucous membrane, and serves on the other hand to destroy the poisonous effects of the use of the germicide which is of a nature to be destructive upon living tissue of any kind, so I have come to use the dioxid, a 3 per cent. solution, and carbolic acid alternately, using one each half-hour, and getting good results in that way.

Dr. A. E. Baldwin, Chicago—I have little to say, only that I was glad to listen to the paper, and it shows a line of investigation that could be made productive of results. I have long thought that the mucous membrane of the mouth is perhaps more pathognomonic than we have given it credit for, but how far the investigation, as given in the paper, turns that way, I am not prepared to say. I have in a quiet way followed the investigation as carefully as possible in the mucous membrane of the mouths of my patients, observing them very carefully, but so far I have obtained no results that I feel would be proper to present before this Section.

Duration of Pregnancy.—According to the German laws the maximum duration of pregnancy is estimated at 302 days. Winckel has been reviewing the statistics of the Dresden and Munich maternities and finds that 1007 children are recorded among the 30,500 births during the last thirty years, who measured 48 to 52 cm. in length and weighed 4000 gm. Of this number 233 or .4 per cent. were born after the pregnancy had lasted from 303 to 336 days, showing that in case of unusually large children the duration of the pregnancy is longer than the laws admit. He mentions that none of the children ever weighed as much as 6 kg. at birth, and none at Dresden during the last eleven years weighed even 5 kg.—*Sammlung Klin. Vortraege*, 292.

A CONTRIBUTION TO THE SURGERY OF THE KIDNEY.

TWO CASES OF DISEASE OF THE KIDNEY SIMULATING GALL-STONES.*

BAYARD HOLMES, M.D.
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CHICAGO.

The surgery of the kidney is much neglected in general practice on account of the difficulties of diagnosis which the surgical diseases of this organ present. The organ itself is hidden in the back. Its exploration through a mid-abdominal incision is unsatisfactory. The urine does not always present a suggestion of the condition of the kidney. The symptoms often lead the physician astray. Two such cases in my own practice seem to me worthy of record as a warning.

When we approach any diseased abdomen, our attention is fixed more or less intently on certain luminous spots, toward one or more of which the symptoms course or the findings almost inevitably point. The spots are the appendix, the gall-bladder, the pylorus, the kidneys and the appendages of the uterus. When we analyze the symptoms and findings of typical cases, there is little danger of error, but in atypical cases, such as the two which I have chosen to present, the diagnosis is very uncertain even after the closest observation. I hope that you will not be wearied by this simple method of presentation, for I have always found the recital of well-studied cases of the greatest practical value.

Mrs. C., 35 years old, was born in New England and educated in one of the colleges for women. She had no sickness of any account during her childhood, but as adolescence came on, she had painful menstruation and became rather nervous and hyperesthetic, but not to any serious extent. After graduation she went to the Sandwich Islands to teach. She married there and returned to the States, where a child was born in 1895. This confinement took place in Philadelphia under competent assistance, but there is evidence in the history there was some puerperal infection of a low grade, which persisted a rather long time. After the confinement, at intervals of two or three months and rarely at intervals of ten days or two weeks, the patient suffered attacks of abdominal pain accompanied by considerable rise of temperature and rarely by vomiting. These attacks lasted only a few hours each time. The pain began in the pyloric region and extended through the back and both shoulders. There was tenderness under McBurney's point during one of the attacks, and a diagnosis of appendicitis was made. In one of the attacks a tumor was felt in the same region, and this time a diagnosis of wandering kidney was made by another physician. After these attacks there was a gradually falling temperature and considerable prostration. The patient had been put on a restricted diet without effect. She had tried hydropathic treatment and a vegetarian diet without any modification in the frequency or the severity of the attacks.

In June, 1899, she left the Sandwich Islands and came to Chicago under my treatment. I found the patient a very intellectual woman of nervous, sanguine temperament and a New England conscience. She weighed 125 pounds. Her history was given clearly, explicitly and without bias. On examination, I found a perfectly developed chest and normal heart and lungs. The apex-beat, however, was three inches from the middle line, indicating a moderate enlargement. The blood showed a normal proportion of red and white corpuscles, but the hemoglobin was only 65 per cent. Malarial organisms were found in abundance. There were many floating black particles in the blood, of unknown significance. The urine was slightly diminished in quantity and in normal constituents—18 to 22 grams of urea a day—but although frequent examinations were made, there were never any abnormal constituents found. In examining the abdomen, both with and without chloroform anesthesia, no tumor nor abnormality was discovered.

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* *Read before the Tri-State Medical Society, April 4, 1901.*

The patient was put on antimalarial treatment, consisting of mild laxatives, a light diet, large doses of quinin, 20 grains six hours before the appearance of the slight rise of temperature, 99.5 F., followed by arsenic for two weeks. This rise was discovered by taking the temperature every half hour during waking hours. The organisms were gone by the end of a week. During the next few months the blood was repeatedly examined, but no malarial organisms again discovered. The hemoglobin rose gradually to 85 per cent.

There were no attacks of pain during the first few weeks she was under my care, but one morning at the end of two months she sent for me in great haste, and I found her suffering moderately from pain in the abdomen, back and shoulders. Her temperature was only 99 F., the pulse moderately accelerated. The patient was not anxious or fearful and willingly allowed protracted examination before morphin was given. Now for the first time a tumor in the region of the gall-bladder was easily outlined. It was not movable, but clung to the lower border of the liver and moved with each inspiration and expiration. It was moderately tender on pressure. No other signs or symptoms were elicited. A small hypodermic of morphin was given and the hot water-bag placed over the liver. In two hours the pain and tumor had both disappeared. The next attack came on only a few days later, after a hearty meal. It resembled the first attack in every particular, except that it began with vomiting. The tumor appeared again and disappeared with a liquid movement of the bowels. The third attack came on in October, and was more severe and long lasting than either of the others. This time I had Dr. George W. Webster in consultation. He saw the patient alone. The tumor in the region of the gall-bladder was present as before, but now for the first time there was distinct jaundice and the urine contained an unmistakable circle of bile. The case was thought from the first to be one of stone in the cystic duct, for the following reasons: 1, pain in the region of the back and shoulders; 2, tumor in the region of the gall-bladder; 3, absence of all evidence of renal disease; 4, clinical history of biliary calculus. With this history and the advice of Dr. Webster, I deemed it best to remove the stone.

After the usual preparations and under chloroform anesthesia, she was operated on November 30. Her temperature was normal and her pulse 88 before the operation. An incision three inches long was made along the right border of the rectus muscle and the abdomen explored. The gall-bladder was of normal appearance and thickness and contained no calculus. The right renal region was filled by a cyst-like mass somewhat larger than a kidney. The ureter was of normal size and feeling. The peritoneum was opened over the kidney and behind the colon and attached to the depressed peritoneal edges of the abdominal wound by continuous and by interrupted catgut sutures. The small amount of fat over the cyst was pushed away and the tumor pulled out through the abdominal wound and examined. It was found to be a cystic kidney, the outer surface of which looked like an ovarian cyst. The kidney substance was gone, except at a point near the lower pole, where a mass remained as big as the ball of the thumb. The wound was protected and the cyst opened. It was found to involve all the calices and the pelvis. The ureter opened out of it by a short turn. There appeared to me no way by which the small amount of kidney tissue could be saved and the ureter made effective. Therefore the artery and veins were separated from the ureter and ligated with strong, braided silk. The kidney was removed and the ureter pulled out of the wound as far as possible and cut off. The mucous membrane was turned in and the muscular and fibrous coats sewed tight together with fine silk. The stump was then dropped. On account of fear of infection from the interior of the cystic kidney which had been opened over the wound, I decided to pack the cavity with gauze containing a little iodoform. The ends of the abdominal wound were closed, leaving only a small opening for drainage. The operation lasted an hour and a half and was borne without event.

The temperature rose four hours after the operation to 99.6 F., and there was considerable pain and vomiting. During the following few days the urine was quite scanty, but it contained no abnormal constituents. The temperature never rose above 100 F. and the convalescence was perfectly normal. The packing was removed from the wound within a week, but the cavity became infected and did not close until six weeks later. Warning was given by a sharp chill and rise of temperature to 104 F., and the silk ligature on the renal artery was removed under cocain anesthesia. The urine had gradually and steadily increased in quantity until it reached 1000 c.c., and until the urea rose to 18 to 20 grams a day. During the convalescence there was a sharp attack of pain resembling the old paroxysms, but since that time, almost a year and a half, she has had no pain and no sickness. The urea has steadily increased and the patient has enjoyed almost perfect health. She has led an active student and literary life.

Mrs. M., 40 years old, of New England stock, was born and spent most of her early life in the tropics. She was always very active mentally and physically, but was never very strong. She weighed about 120 pounds. She was never ill except when her only child was born eight years ago. The labor was difficult.

In 1889 she had an attack of colic with fever and jaundice and was ill several days. Again, a few years later, while in Europe, she had a somewhat similar attack without jaundice. In 1898 she had several attacks of severe pain in the abdomen. During these attacks I attended her. The pain was severe paroxysmal, lasting fifteen to thirty seconds, with about an equal interval. She preferred a sitting position, bent over on her knees, with head and shoulders turned down. The greatest pain was in the back and shoulders, with none in the legs or vulva. The muscles on the right side of the abdomen were rigid and examination was difficult. A few drops of chloroform in olive-oil usually relieved the pain at once. On a number of occasions she had the sudden relief characteristic of displaced mechanical obstruction. The urine was frequently examined, but no abnormal constituents were found. There was no bile. A provisional diagnosis of gall-stones was made. The patient without any recommendation took the olive-oil treatment. There was a long interval, several months, of apparent relief, but during this time she always remembered her side. About October, 1900, she was taken with a most severe attack and for the first time a distinct tumor was felt in the region of the gall-bladder. It was hard, round, immovable and painful. A few whiffs of chloroform were given to facilitate examination, and after waking up the pain was gone. The next day the tumor could not be felt. During the Christmas vacation a very protracted attack was suffered and this time there was no complete relief for a week. Severe sharp attacks followed in quick succession after her return to the city, and in two or three, the tumor in the region of the gall-bladder was unmistakably felt. In one attack, the pain disappeared during palpation of the abdomen. Her temperature during these paroxysms rose to 99 F., but once or twice a degree higher. The urine was uniformly acid, of rather large quantity and contained 2.5 to 3 per cent. of urea. There were never any abnormal constituents.

With the following indications and diagnosis, which I copy *verbatim* from the notes of her history sheet made before operation, she entered the Baptist Hospital for operation Jan. 14, 1901.

INDICATIONS AND SYMPTOMS.

1. History of abdominal pain, region of gall-bladder, radiating into back (and shoulders), certainly not into labia or legs. Duration six or eight years.
2. These pains severe, often light or simply threatening; when severe, terminating suddenly with complete relief.
3. Rigidity of muscles over right side of abdomen continuing even after the paroxysms of pain have subsided.
4. Tumor felt on at least three separate occasions in region of gall-bladder. Unfortunately no history or record of recognition of kidney at same time and separate from it.
5. No tumor or tenderness over appendix or over course of ureter, or in pelvis.
6. No tumor or tenderness over pancreas.
7. No tympanites. Rumbling of gas in bowels during and after attack, with no appreciable relief from pain or difference in character after paroxysm.
8. No fluid in peritoneal cavity.
9. No abnormal constituents in urine; acid.
10. No dilatation or hypertrophy of heart as in stone in kidney.
11. No evidence of tuberculosis in examination or history.
12. Low temperature, 99 to 100; with subnormal temperature of 97.5.
13. No vomiting, and only once or twice "sick headache."
14. No disorders of bowels, movements a little tardy, no diarrhea after paroxysm.
15. No jaundice (except in 1889).

DIAGNOSIS.

The diagnosis lies between 1, gall-bladder disease; 2, appendicitis; 3, mechanical obstruction of kidney; 4, tubercular peritonitis; 5, obstruction at hepatic flexion of colon; 6, tumor in this region; and lastly, gatralgia or hysteria.

The disease or condition is of long duration, 2 to 8 years; no suppuration, temperature 99 to 100; probably mechanical, stopping the discharge of some viscus and the peristaltic action of some set of muscles.

The usual preparations were made and with chloroform anesthesia the abdomen was opened on the right border of the rectus muscle. The gall-bladder was found empty of stone and normal in appearance. The right kidney was movable and directly under the gall-bladder, but easily brought into the middle-line under the umbilicus. After thorough examination of the pylorus, the appendix and the right ovary, the floating kidney was considered the only adequate cause of pain; it was fastened back in its place in the usual manner. The location was approached by a long, curved incision, the kidney denuded of fat and pushed back so as to button through the inner fascia of the quadratus. It was fastened to the fascia by a double row of interrupted long-lasting catgut stitches. Both wounds were then closed in layers.

The patient made a perfect recovery except for one alarming complication. During the four weeks she was in the hospital, she had three attacks of pain similar to the pain she formerly suffered. Since that time she has been entirely free from pain. The kidney remains in place and she has resumed her very active life.

THE GYNECOLOGICAL AND OBSTETRICAL SIGNIFICANCE OF GIRLHOOD.

HENRY P. NEWMAN, A.M., M.D.,
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I have recently received a letter from Dr. George Engelmann, of Boston, announcing his intention of reading a paper before the Gynecological and Obstetrical Section at the June meeting of the Americal Medical Association, on "The Causes of the Increasing Sterility of American Women," and stating his conviction that the subject is of vital importance and needs investigating. The same authority, as President of the American Gynecological Society, made an elaborate address last year upon a very nearly related topic: "The American Girl of To-day," and aroused much interest in his carefully prepared and somewhat startling statistics. It would appear from his researches, and in these he was assisted by prominent educators, teachers in young women's colleges and normal schools and by the heads of mercantile houses where women are employed, that the absolutely normal, healthy girl is exceedingly rare. It is evident that for her own sake as a future mother and for the sake of the race which is to come of her that we should do something to better the conditions which threaten her maternal functions.

The lack of fertility is not the only evil. The need is not so much for larger as for better families. The higher you go in the scale of animal value and intelligence the scarcer become the progeny. We want a better physical heritage for the few. It is the right of each individual to be perfectly born and generously nourished at a healthy mother's breast. A perfectly just and apparently simple proposition, but one requiring the united effort of our entire domestic, social and scientific systems. It has been proposed that the obstetrician be given charge of the whole period of gestation. But this is not enough. Too often he will find threatening lesions, infections, inflammations, malformations and malpositions already existing and will feel that to be successful with his case he should have had an oversight over the years of girlhood in which so much mischief was done.

The case-books of our specialists in gynecology and obstetrics and the records of teachers and employers of young girls go to show that the period between childhood and womanhood is not all what it should be. This period in which nature is concentrating all her energies upon the development of the generative organs and the establishment of their physiological functions is ordinarily that in which greatest demand is made upon the vital forces of the girl by the exigencies of our modern social and educational systems.

Her mental and nervous forces are taxed to the utmost by the ambitions of the study room, and the transitions from grammar to high and normal schools; she is overworked by the addition of music and one or two languages to the already full curriculum of the class; her digestion is impaired by that wretched institution the school "lunch," and other abuses; her muscular activities are curtailed by the adoption of the corset and a more mature and burdensome form of dress; her social instincts are roused by too early participation in exciting amusements, and with it all she begins to experience the nerve-trying influence of the menstrual epoch. If employed as a wage-earner the conditions of her occupation are even less favorable in the majority of cases. Under these complex and unhealthy stimuli the average young woman may present a bright and vivacious appearance but is wanting in endurance, nerve-force and general physical tone. In a very large percentage of American girls there is greater or less impairment of the menstrual function. Engelmann's statistics, covering all degrees of pain, give as high as 73 per cent. of suffering at the monthly period, and 50 per cent. of irregularities of all kinds. Not all of these young girls consider themselves, or are to be classed, as invalid, but it may certainly be affirmed that all deviation from the physiologic in the performance of the menstrual function is a detriment to the function of maternity in the same degree as the woman has departed from normal standards. As I have observed in numbers of cases the sequence is this: irregular menstruation, seldom profuse or prolonged but usually accompanied by pain at the beginning and during the progress of the flow. After a varying lapse of time, this characteristic menstrual pain is preceded by a prodromal stage of nervous exacerbation in anticipation of the flow and due to the gradual development of congestive or structural disease of the ovaries. Sometimes this goes on to a condition of pronounced or partial invalidism; sometimes the patient, and I use the term advisedly, for about this time the unfortunate pathology is brought to the attention of the physician, sometimes the patient marries. If married, such a woman may expect either total sterility or the birth under most unfavorable circumstances of one or two children. Sometimes she loses her life; often through unavoidable obstetrical accident, her little remaining health; sometimes her child is sacrificed, and all to the Moloch of our bad social and educational methods. To quote Engelmann's words: "The girl pays the penalty and the community suffers." To return to the etiology and pathology: the disturbance of the process of development of the generative organs, which is the chief concern of Nature in the pubertal period, the forced activity of other organs through misdirected or ill-timed educational methods results in a thwarting of the growth in the pelvic regions and a condition there which is pathognomonic. In gynecologic parlance we speak of it as infantile uterus, or the puerile or juvenile cervix according to the degree of arrest of development. In the first the process of development has been nipped quite in the bud, while in the latter and commoner form Nature's efforts have been fairly successful as to the corpus uteri while the cervix remains long, conical and deficient in lumen.

This typical maldevelopment of the cervix plays a disastrous role in the future history of the woman. Pain itself, not always pronounced in the beginning, gradually becomes a feature of the moment. Recurring monthly this influence is baneful and like all chronic suffering, exhausting and devitalizing. The congestion incident to this state of things becomes more persistent as time goes on until a passive congested state is continuous throughout the intermenstrual period. There is general lowered vitality and less resisting power, so that even should pronounced infection with inflammatory exudates be wanting, a low form of white-cell proliferation occurs and the newly-formed connective tissue hardens, contracts and, by constricting the lumen of the cervical canal, renders this important organ unfit to perform its functions, softening and dilating in menstruation, copulation, and childbirth, drainage of the uterine cavity, etc. The ideal handling of these cases is prophylactic, such as is embodied in that trite advice that we begin with the girl's grandmother. Being forced to make our beginnings with this generation we must do the best we can for it. Much can be done by instructing mothers in the management of the maturing child. Perfect confidence between mother and daughter will insure hearty co-operation on the part of the latter in all efforts for her developing health and strength. Out-door life should be rigidly insisted on for the girl as for the boy. The dress should be as free and unconfined as his. Forced mental development at the expense of the physical should be discouraged. In fact, due observance should be given to the hygiene and sleep, diet, dress and exercise. Pain should be relieved, not necessarily by drugs, but by sitz-baths, topical applications, heat, etc., or, if due to mechanical causes in the organs themselves, recourse should be had promptly to surgical intervention.

The conical cervix already described is so frequent a cause of dysmenorrhea that it should invariably be corrected when the attention of the physician is called to the characteristic symptoms.

It is better practice to do a full dilation, under anesthesia, supplemented with plastic work for the purpose of restoring the contour of the cervix and maintaining a proper lumen, than to subject the patient to a course of local treatments in the gynecologic chair. I believe, in fact, that the doubtful local benefit to be derived from such treatment is more than counterbalanced by the mischief of the procedure in fixing the girl's attention upon her pelvic organs and clouding her young horizon with the shadow of chronic difficulties.

With this in view I have been in the habit of subjecting my patient to but one seance, in which I aim to accomplish so much that she does not have to return for further local treatment. She is told that her difficulties have been corrected and is encouraged to believe that she is now cured and must in future keep herself well.

The operative work I speak of, "tracheloplasty," is applicable to all cervical deviations, deformities and displacements, and is undertaken to restore the anatomical relations of the organs and to re-establish normal function.

While conception and full-term pregnancy are theoretically to be desired in these cases, both as a means of developing the generative tract and remedying some of the imperfect conditions present, it is not always happy in its results. If the case goes on to full term, labor is apt to be arduous from lack of functional power in the organ, anatomical conditions, etc., and tears or trauma are exceedingly apt to occur with all the dangerous consequences. At best such a woman is sadly handicapped and, for her, wifehood and motherhood are hazardous experiments. If mothers and educators could be made to realize how preventable are most of the diseases from which the rising generation of women is doomed to suffer; if, for instance, they would reflect upon the fact that among the most prolific causes of gynecic disease are maldevelopment from improper hygiene at puberty, taking cold at the menstrual period, and constipation, the season of girlhood would henceforth be brought much nearer Nature's wise intention and would to a great extent cease to have its present significance to medical science.

The girl as the product of modern civilization is, in everything but bodily vigor, removed by all that is desirable from her aboriginal mother.

It is the just aim of our educational system to develop still further her intellectual qualities. It is therefore due to her and to the vital interests she represents that we endeavor to restore as far as is compatible with our artificial standards, the natural privileges of which she has been deprived, and contend with coming generations for better things.

103 State Street.

ADENOMA SEBACEUM OF THE NON-SYMMETRICAL TYPE.

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The pathologico-anatomical term adenoma still lacks both definiteness and circumscription. Some authorities extend it to include all increase of glandular epithelium, even when form and function are well preserved. Others limit the designation to an atypical increase with loss of function. It is not surprising, therefore, that the same confusion should exist with regard to the sebaceous adenomata of the skin. The affection is a rare one. and the opportunities for histological examination have not been numerous. A study of the literature, however, shows very plainly that two main pathological types may be distinguished. The first accords with Unna's definition: Benign, irregular, tumorous outgrowths of the sebaceous epithelium, going on to fatty, but not to corneous or colloid metamorphosis. The second is a simple hypertrophy of apparently normal sebaceous gland tissue.

Clinically, also, at least two types of sebaceous adenomata are to be recognized; they do not, however, correspond to the pathological types, cases of both occurring in either of them. Most of the recorded cases have occurred as multiple, yellowish or yellowish-red, firm pin-head to lentil sized nodules, without any central depression, and situated on the central portions of the face, more especially upon the nose, naso-labial folds. etc. A certain proportion of cases are congenital, and are therefore ranged by Besnier, Hallopeau, and Jadassohn among the nevi. Mental sluggishness or distinct deficiency has been noted in a number of cases.

In a few cases, however, sebaceous adenoma occurs as one or more larger tumors seated upon the scalp, or more rarely upon the back or other parts of the body. Barlow has found 50, and Poncet as many as 60. in one case; but usually they are single or few in number. They form lentil to nut sized or larger tumors of a pale yellowish color, and absolutely indolent. Microscopically they are composed, as a rule, of hypertrophied sebaceous epithelium enclosed in a distinct fibrous stroma. Hyaline and calcareous degeneration has been noted and even transformation into typical epitheliomata. It is a case of this kind that I desire to record.

The patient was a girl of 19, born in Germany. She was distinctly backward in physical development, looking like a girl of 14 or 15, but was mentally bright. She began to menstruate at 16, suffered from chlorosis three years ago, and had had leucorrhea for the past six months. The lesion on the scalp was first noticed when she was one year old; it was very small at first, and has gradually grown to its present size. There had been no subjective symptoms from the growth, and the patient simply desired to be relieved of the deformity.

The growth is not very well shown in the accompanying illustration, on account of its comparatively slight elevation above and color differentiation from the surrounding skin and blond hair. It was situated upon the right parietal region of the scalp, near the fronto-parietal margin and about half an inch behind the anterior margin of the scalp. It formed a curved, elongated patch two and a half inches long by three-quarters of an inch in its widest part. The surface was slightly elevated, a little rugose, and marked with a few lanugo hairs; normal scalp hair was entirely absent over it. Its color was a pinkish-yellow, quite distinct to the eyesight from the normal scalp. The entire mass formed an absolutely sharply circumscribed tumor in the skin.

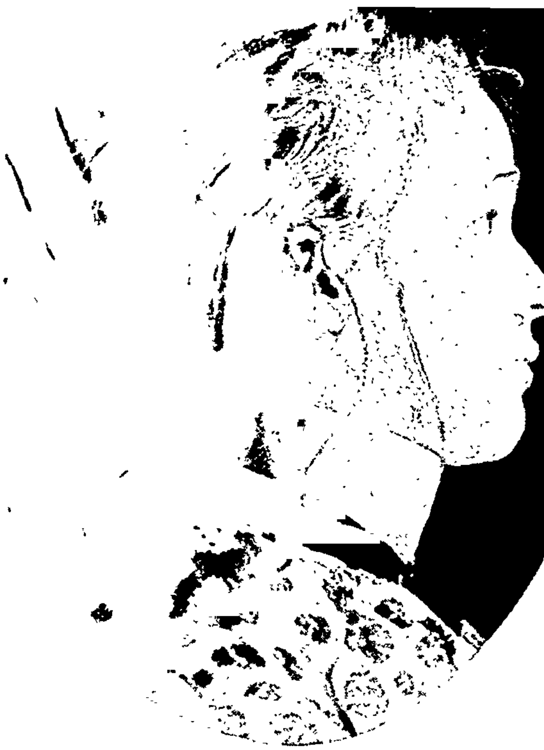
Figure 1.

The diagnosis was not made from the appearance of the growth; in fact Darier admits that it can not be made in the non-symmetrical form of the disease until the microscopic examination has been made. Before this was done I demonstrated the case as a probable xanthoma at the Manhattan Dermatological Society. After excision portions of the tumor were hardened and stained in various ways. I may note that the "Kernschwartz" gave me the best results for photomicrographic reproduction, giving all the gradations from light gray to black in a way eminently suited for the purpose.

The microscopic picture is shown in Figure 2. Its most marked feature is the enormous hypertrophy of the sebaceous glands, which are, however, normal in shape and have normal excretory ducts. Each gland is inclosed in a thin capsule of fibrous tissue. The epithelial layer is increased and the papillæ of the corium are hypertrophied; and here the growth resembles the benign forms of epithelioma to a certain extent. The isolated hair papillæ found in a few of the sections are very small and atrophic. The sweat glands and the subcutaneous connective tissue and fat are apparently unchanged, save for the compression exercised by the hypertrophied sebaceous glands.

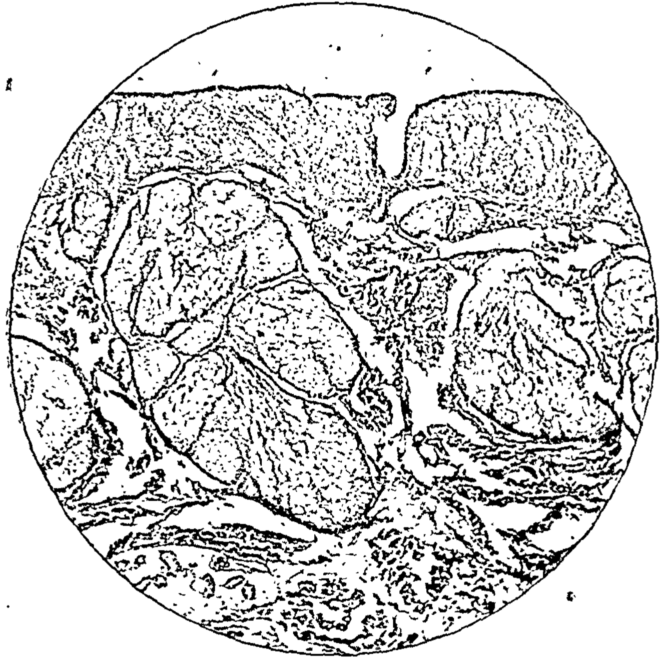

Figure 2.

The resemblance to rhinophyma is marked, but there is absence of any hypertrophy of the connective tissue of the cutis, and the increase of the epithelial layer is distinguishing. Benign epithelioma of the adeno-cystic type might be thought of but for the absence of epithelial prolongations and degenerated cell-nests.

THE TREATMENT OF LARYNGITIS.*

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It is the intention of this article to describe chiefly the local treatment of acute and chronic laryngitis, and to mention general measures only where they are necessary aids. The first form of acute laryngitis to be considered is the simple catarrhal type of moderate degree. This variety occurs chiefly in adults and, of all forms of laryngitis, is seen oftenest. It does not confine the patients to the house so that most of them are seen in the office or at clinics.

The chief symptoms are cough, at times incessant and distressing and varying degrees of hoarseness. The laryngoscopic appearance are the well-known ones of diffuse or localized congestion, especially of the cords, while secretion may be absent, or raised in the form of mucus or muco-pus. Most of these cases run but a short course and recover spontaneously, though the patient may continue to use and even abuse his voice. Where cough is a prominent feature it mechanically injuries the larynx and should be controlled by codein or other usual remedy. The influence of the inhalation of hot steam on the course of the disease has, in my hands, been so decided that I have come to rely on its beneficial influence. Voice rest is to be enjoined, but it is hard to enforce obedience. Of internal remedies, salicylate of sodium seems to have an abortive influence in some cases. With diaphoretics I have accomplished nothing, neither has menthol volatilized or sprayed in oily solution influenced the course of the affection as far as I could see. Seth Bishop praises menthol as an antiseptic anodyne. The anodyne effect is so feeble, in my experience, that it will not even suppress cough. The cooling sensation caused by the drug is deceptive. Menthol is, as Ingals says, chiefly an irritant stimulant and hence out of place in early acute laryngitis. As to its antiseptic influence it is doubtful whether the minute amount of this rather feeble antiseptic entering the larynx in volatilized form will influence the growth of microbes encased in protecting mucus. The oily menstruum of the spray will prevent efficient action of the antiseptic qualities of the remedy. This effect of oily solution on antiseptics is emphasized by John E. Weeks in his article on the relative germicidal value of the antiseptics. He thinks that the oily solvent prevents contact of the chemicals used, with the tissues.

Though most cases of the variety of laryngitis under consideration recover speedily, quite a number show little tendency to get well and pass into a tedious subacute stage with slow recovery or become chronic. Persistence in singing or speaking contrary to orders is one of the chief causes for this. In fact, it seems almost impossible to induce patients with acute laryngitis to rest the voice. Where the acute laryngitis assumes this protracted form local treatment is needed. Most cases will recover promptly under its influence, but some will prove refractory, especially where the general health is bad, as in the pretuberculous state or when lactation reduces nutrition.

The clinical picture and histologic appearances of acute laryngitis are those presented by an infected mucous membrane, whatever theories may be held in regard to the etiologic importance of exposure to cold, which probably acts merely as a predisposing cause. If we find the histologic changes of acute laryngitis, the epithelial and subepithelial round-celled infiltration, the desquamation of devitalized epithelium, the wandering of masses of leucocytes to the surface in any mucosa other than that of the respiratory tract, as that of the urethra or conjunctiva for example, we are not in doubt in the least that we have to do with a mucous surface inflamed by bacterial invasion. Why should exposure to cold, without other agent, be supposed to be able to produce changes in the mucous membrane of the larynx that elsewhere in the body we regard as typical of an infected mucous surface? The beneficial action of the usual remedies also impresses one with the infectious character of acute catarrhal laryngitis. These remedies are the so-called astringents, all of which are bactericides, and it has been my experience that the most bactericidal of all, nitrate of silver, is the most effective, and that the least in value are two but feebly antiseptic, tannic acid and alum. The most effective astringents are metallic antiseptics, and differ from organic antiseptics in their power of combining with the surface of the living tissues and imposing a barrier of metal-laden protoplasm to bacterial invasion. They therefore do not merely lie on the epithelium, but enter into it so that prolonged contact is insured. If used in too great strength they will devitalize the surface, that is cauterize it, a result irritating and undesirable in acute inflammations.

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This clinging power of the metallic salts to the tissues undoubtedly explains the permanence of their beneficial and also undesirable effects, such as lead poisoning and argyria. One of the unpleasant features of the silver salts is this latter quality, and Moritz Schmidt tells of three cases of argyria due to persistent swabbing of the throat for months with silver nitrate. As to the so-called astringent effect of the astringents, as Harnack says, it does not exist. They do not cause a mysterious contraction of the tissue elements or their vessels; they merely form a protecting coat which hinders the egress of secretion—hence the drying effect of astringents.

At present silver nitrate is largely being displaced by protargol and similar modern compounds of silver, which are undoubtedly superior to the nitrate. Protargol is antiseptic, does not cauterize and penetrates the tissues deeply. A good strength of solution for use in acute laryngitis is from 20 to 50 grains to the ounce. Protargol and the astringents seem to me most effective where there is a decided amount of purulent secretion, while in the cases where hyperemia predominates the result is much less marked. Some of these latter cases are, in fact, in some instances not so much laryngitis as congestion due to voice abuse, especially in singers. This has been well emphasized by Holbrook Curtis of New York. Results are best obtained here by voice rest and proper methods of singing.

I have not found that the remedies of the eucalyptol, thymol, menthol and terbene group compare in efficiency with the metallic astringents. They are often used in oily solution and, as mentioned, oily menstrua inhibit the action of antiseptics. In addition oils do not form intimate contact with the moist tissues treated, but spread and float away as they would on water. The conditions are different on the skin, designed naturally for oily media, and where prolonged contact is assured. The above-mentioned drugs belong to the class of feebler antiseptics and therefore require prolonged contact in decided strength to be effective.

The mode of application of remedies is not a matter of indifference. The spray seems to me the best. Powders are removed by coughing and scraping before the active drug they contain has time to dissolve and penetrate the layer of mucus that protects the epithelium. Swabs mechanically injure the tissue by causing violent spasm of the laryngeal muscles and scraping off the epithelium, leaving raw surfaces. The laryngeal syringe, to reach all parts, must inject a large amount of fluid which can therefore not be used in proper strength to be effective without causing the patient great discomfort. With the spray a single drop can be made to evenly cover a large surface. The spray should of course always be introduced under the guidance of the laryngeal mirror, but even then its fault is that enough does not get into the narrow space found in many patients between the epiglottis and posterior pharyngeal wall, in sufficient amount to be effective. To open the upper larynx widely for the spray in these cases it is a good practice to hook the epiglottis forward with the tip of the atomizer. In many cases this is not possible, however, with the ordinary laryngeal tip, so that I use one of my deep tracheal spray tubes, recently described in The Journal, for this purpose. The long tube readily hooks up the epiglottis. Another advantage of the instrument is the fact that it is possible with it to spray directly against the interior of the larynx and so blow away mucus from the surface while driving the remedy against the tissues at short range. The perspective does not permit us to appreciate how very far down in the neck the larynx is often situated, and a spray coming from high above it in the ordinary way spreads like a fan, so that but a portion of the medicament enters the larynx, and the rest is lost on the pharyngeal walls and in the fossa pyriformis.

From the milder type of laryngitis mentioned we advance through grades of increasing severity until we reach an extreme type of acute laryngitis, acute submucous laryngitis. In this form the infectious agents pass beyond the mucous membrane into the lymph spaces and channels of the submucous connective tissue, which becomes swollen and hyperemic, while at times enlarged cervical lymphatic glands can be felt. In the upper larynx the swelling may be so great as to cause serious dyspneas due to enlargement of the epiglottic and aryepiglottic folds. In this type of laryngitis it is obvious that the affection has penetrated too deeply to be influenced by applications to the laryngeal mucosa, as the disease is more in the lymphatic channels than on the surface; in fact the irritant effect of astringents may add to the swelling in a dangerous degree. In these cases the external application of cold to the neck is efficacious. As Schech states, cold limits the blood supply to the larynx by constricting both the great and small arteries of the neck, as proven by Winternitz. This diminishes the vascular swelling of the mucous membrane. In the case of a patient shown at the clinic for chest, throat and nose diseases, at Rush Medical College, the dyspnea was so great that tracheotomy was considered. The patient was admitted to the Presbyterian Hospital and treated with a spray of adrenalin chlorid applied systematically, together with repeated hypodermic doses of pilocarpin, 1/4 grain each, to keep up a profuse sweat. These means seemed to keep the swelling in check, so that operation was avoided.

The hypodermic use of pilocarpin for edematous conditions of the larynx has been advocated by Suarez de Mendoza, and he thought that it avoided tracheotomy in threatening cases. Felix Semon obtained good results from scarification of the swollen mucosa in these severe examples of submucous laryngitis. Intubation proved ineffective in a case of my own, as the edematous aryepiglottic folds closed over the top of the tube; scarification also proved unavailing so that tracheotomy had to be performed. When the epiglottis is much swollen it is apt to be immovable, so that fluids enter the trachea. In this state it is advisable to feed with the esophageal tube. In some instances submucous laryngitis is confined to the hypoglottic region, the loose areolar tissue underneath the cords swelling and dangerously obstructing respiration, the so-called laryngitis hypoglottica acuta gravis of Naether, or chorditis vocalis acuta inferior as it is also called. This grave form occurs chiefly in adults, while a less serious variety is found in children, causing the condition called pseudocroup, laryngismus stridulus, or spasmodic croup. Though often this affection is caused by spasm of the glottis merely, the opinion of to-day seems to be that at least most of the cases are due to temporary hypoglottic swellings that increase during the venous congestion due to sleep, and subside as soon as the waking child takes deep inspirations. The swelling has been seen by a number of observers. In some cases intubation is needed, but as a rule cold applications to the neck, keeping the air moist with steam and the use of narcotics to avoid any complicating spasm of the glottis will avert this. Local applications to the hypoglottic region in children are impossible.

The acute hypoglottic laryngitis of adults is apt to require tracheotomy or intubation, and neither of these operations should be put off if dyspnea is at all marked, as the hypoglottic swellings are apt to suddenly increase enough to suffocate the patient. Cold applications to the neck will prove useful. Hajek warns against the use of potassium iodid in this affection, as it may make immediate tracheotomy needed by adding to the swelling. Laryngitis with scabbing and crusting in the larynx, the so-called laryngitis sicca, exists not merely in a chronic but also in an acute and subacute form. It is hard to explain this tendency of the secretions to dry in the larynx. The crusts may become massive enough to cause serious dyspnea, but usually are merely sufficient to create cough and hoarseness and at times bleeding.

Cases of this kind are not excessively rare, and usually the crusts can be seen to extend down into the trachea. As a rule the scabs rest on the cords and inter-arytenoid region, where there is pavement epithelium. These cases are generally tedious without treatment both to the larynx and trachea. As long as the latter is lined with crusts treatment confined to the larynx is ineffective. Inhalation of normal salt solution from a steam atomizer is an excellent palliative, but will have little effect on the tracheal scabs. Nitrate of silver or protargol sprays, as soon as the disease has passed its acutest stage, are very effective if they can be made to reach all of the diseased mucosa. The ordinary laryngeal tip will answer well enough for most cases confined to the larynx, but for the tracheal scabbing I have found it necessary to use the long tracheal spray tube devised by me. The tip of this must be either held within the opening between the cords or passed through them into the trachea after cocainization. The ordinary spray tip has to be placed so far above the chink of the glottis that most of the jet is lost in the larynx and but little passes into the trachea, especially as the cords are held spasmodically in a position of partial adduction by most patients. Until I used this method I found laryngotracheitis sicca a discouraging disease to treat. The tracheal syringe is far more unpleasant for the patient than the spray, and as it necessitates larger amounts of fluid the concentration of the chemical in solution must be weaker unless we wish to run the risk of causing excessive irritation. The spray also applies itself more evenly to the tracheal walls. Oily substances can be sprayed into the trachea with the view of dissolving the crusts, and the patient should be kept in a room with a steamy atmosphere.

Laryngitis characterized by hemorrhage from the mucous surface without ulceration or wound, and at times by submucous hematomata, is called laryngitis hemorrhagica. It is very rare and in some cases has proved dangerous on account of large tough clots forming in the trachea and larynx. In a large proportion of cases it accompanies laryngitis sicca. The bleeding may be profuse. In laryngitis sicca the recurrence of the bleeding can be avoided by moist inhalations to prevent the formation of crusts. Astringent applications in laryngitis hemorrhagica should not be irritating, and the best of these for mild hemostatic effect is probably tannic acid. The iron salts will certainly create much reaction and form tough leathery clots hard to remove by coughing. When the larynx is full of clots and blood it is doubtful whether any local applications will reach the bleeding surface, so that cold to the neck, rest and narcotics are probably the best remedies under these conditions. Adrenalin would have a good but temporary effect when it can be applied.

Uchermann has recently described a form of laryngitis which he calls laryngitis acuta circumscripta nodosa rheumatica. It occurs in the form of sensitive, rather firm, blue-red infiltrations analogous to those of the cutaneous erythema nodosum. When seated over the crico-arytenoid articulation the nodes cause pseudoanchylosis with immobility of the cord. The therapy is salicylate of sodium.

In chronic laryngitis we have to deal with lasting changes which have gradually more or less profoundly altered the epithelium, the submucous connective tissue and the blood-vessels of the larynx. These elements will be effected in varying proportion. The epithelial changes are usually in the direction of the creation of a dermoid condition of the laryngeal mucosa. In extreme cases the whole laryngeal interior becomes thus lined with pavement epithelium, but usually there is thickening merely of the inter-arytenoid epithelium and of that on the cords. At times the change is confined to the region of the processus vocales, causing two epithelial protuberances, the typical pachydermia laryngis of Virchow. When occurring in the inter-arytenoid region the epithelical thickening causes stiff folds or a general warty prominence of this locality. The connective tissue hyperplasia may cause smooth or nodular hypertrophy of the cords, greatly increase the size of the ventricular bands, which then cover the cords, create hypoglottic swellings that at times dangerously interfere with breathing, fill the inter-arytenoid space with clumsy folds and nodosities of thick mucosa. Hyperplastic mucous membrane protruding from the ventricle of Morgagni has given rise to the term "eversion of the ventricle," a false conception of the condition. The vascular changes are in the direction of venous dilatations which form, at times, varices on the cords. There may be venous congestion of the entire laryngeal membrane.

In other cases of chronic laryngitis there is atrophy instead of hypertrophy. In my experience a not very rare condition is absorption of the tendon-like connective tissue of the cords, leaving in their place mere folds of flabby mucous membrane, an incurable state well described by Störk. In some rare cases erosions on the cords and fissures of the interarytenoid region are found. They are always suspicious of tuberculosis. In some old cases of laryngitis atrophy of the muscles occurs simulating paresis.

Most cases of chronic laryngitis do not show these profound alterations. In many cases the condition is slight and localized, especially in the chronic laryngitis of singers.

In another type of cases the most prominent changes are found in the mucous glands, with chronic alteration of secretion, in mild examples limited to scraping up of small amounts of muco-pus. In the severer grades the whole larynx and trachea may be lined with pasty pus or thick crusts, at times fetid, the so-called ozena laryngis, usually but not always associated with the same state in the nose and nasopharynx. When the secretions are removed the shape of the laryngeal interior may be found but little altered. In some extreme cases the vocal cords will be found distorted and joined to each other by cicatrices, leaving but small room for breathing, as described by Freudenthal.

This brief sketch of the pathologic conditions of chronic laryngitis shows their enormous diversity and the great variety of means needed to combat them, ranging from a mild astringent to a surgical operation, and that one must be able to recognize states in which irremediable changes make all treatment useless. The need of treating simultaneously nasal and pharyngeal pathologic conditions is too well known to need more than mention here. The great and inveterate effects of chronic laryngitis can not be conquered by a few spray formulæ, as the favorite presciption corner of some medical journals would lead one to think. Great patience is needed by the patient and physician and we can not promise too surely a recovery. Often we will get only moderate or no improvement.

The first thing needed in the treatment of chronic laryngitis is to remove the source of chronic laryngeal irritation if there is one, whether it be mouth-breathing, nasopharyngeal catarrh, alcoholism, voice-abuse, or other cause. It is very important to bring the body weight and nutrition up to the normal standard for the individual. This is unfortunately not alway possible when we consider how often chronic nontubercular laryngitis depends on pulmonary tuberculosis.

In the milder cases of chronic laryngitis, where the changes are confined to slight epithelial thickening and hypersecretion with moderate congestion, we can sometimes effect rapid improvement by the stimulus of mild astringent applications, such as silver nitrate, 10 grains to the ounce, or copper sulphate, 20 grains to the ounce. From the much praised alumnol I have had only disappointment, but zinc sozo-jodole, recommended by Moritz Schmidt, is mild in action and gives positive results. I use it in 5 per cent solution. This treatment is gratifying in the slight chronic catarrhal irritations of singers. Singers are subject to these even when they use their voices properly, and seem to have a special tendency to laryngitis.

In instances where the epithelial thickening and connective tissue hyperplasia is pronounced we need more powerful chemical agents to accomplish our ends. Those authors who have had the widest experience and have acquired an unusual degree of intralaryngeal skill in consequence advise here the application of mildly caustic solutions applied accurately to the parts showing pathologic changes, as for instance thickened hyperplastic *vocal cords or the pachydermatous folds in the inter-arytenoid* region. Solutions of silver nitrate in the strength of 25 to even 240 grains to the ounce of water are advised by Störk, Krieg, Schroetter, Semon. *Tincture of iodin*—pure—and chlorid of zinc in 3 to 5 per cent. solution are examples. Sajous even employs fused chromic acid to destroy completely the thickened epithelium and ectatic veins on the vocal cords; with good results. Störk says that silver nitrate should be used in strength sufficient to whiten the surface treated. Where the pathologic changes are marked and where we must cause destruction of epithelium which is unnatural to its location such severe means are needed and will be better borne than by the healthy larynx, but it is well to follow Semon's advice and begin with the milder solution, and only if nothing is being accomplished to work up to the stronger ones. It is better not to cover too much ground at one sitting, as severe reactions are to be expected; in fact, Störk says that the patient will be voiceless for a few days, and suggests that this enforced silence will be beneficial. He and others advise a sojourn in a resort, for some cases, simply because the patient will not have the usual opportunities for conversation. For these strong applications local anesthesia is *needed as a preliminary*, and the application of the astringent must be made with a small swab under the guidance of the mirror, with perfect accuracy. As Ingals says, the strong solutions are in most cases objectionable, because of the spasm of the larynx and the great discomfort they cause the patient. In some cases of marked chronic laryngitis, however, we can not avoid their use if we wish to accomplish anything.

Where hyperplastic mucosa protrudes from the ventricle it must be cut away. The best instrument for this purpose is the double curette of Landgraf and H. Krause, which cuts vertically. Tuberous masses in the inter-arytenoid region, elephantiastic ventricular bands can also be removed by some one of the double curettes, or can be reduced by electrolysis or the galvanocautery. The cutting operations are to be preferred, however. *In some cases the snare can be used.*

The treatment of the typical pachydermia laryngis of Virchow, the cushion-like epithelial masses growing from the processus vocales, likened properly to corns in the larynx, is regarded as very unsatisfactory. The accompanying chronic laryngeal catarrh may yield to remedies, but the pachydermatous outgrowth will remain. Some advise against interference with these growths where they do not injure the voice perceptibly. Chiari thinks they should be removed as they are occasional sources of perichondritis. If partly cut off with the double curette they will return; if deeply removed we may do injury to the processus vocalis. The cautery, electrolysis, tincture of iodin, chromic acid, have all been used with poor success. Scheinmann employs a spray of 2 to 3 per cent. acetic acid inhaled from a steam-atomizer for ten minutes three times a day. He also injected the same solution from a laryngeal syringe. The proceeding does not seem very logical, and his claims that the pachydermatous nodes softened and grew smaller were not confirmed by Ilberg, who also had no success with applications of 0.5 to 5 per cent. solutions of caustic potash.

Fein's method is the most promising. He caused disappearance of the pachydermia by using a solution of salicylic acid, 15 grains, water and alcohol each 75 minims, applied with a swab. There was no reaction. The remedy was used every other day for three months. For the treatment of chronically swollen vocal cords softened by venous dilatations Krause's incisions or scarifications offer a decided advance over previous methods. Krause uses a lance-shaped knife and makes small incisions 3 to 4 millimeters apart, longitudinally, along the cords from the anterior commissure to the processus vocalis. The incisions pass through the entire thickness of the vocal cords. In Krause's reported cases the result was recovery from chronic conditions that had resisted astringents for months.

The condition known as ozena laryngis or laryngotracheitis sicca chronica is notoriously intractable. A case of mine of this nature, of long standing, with extensive thick crust formation in the larynx and trachea, responded to treatment with protargol applied with my long tracheal spray, with but moderate improvement. Nitrate of silver was equally ineffective, and I was agreeably surprised, therefore, to find that a spray of potassium permanganate of 12 grains to the ounce was followed in a few days by absolute disappearance of the crusts, which have not returned after weeks, though the treatment is kept up every three days to avoid a relapse. A rhinitis atrophica and pharyngitis sicca of severe degree still continue, though improved so much by irrigations with the same remedy, in the strength of ½ grain to the ounce, that the patient suffers no discomfort from these conditions. Permanganate of potassium is an ancient disinfectant of great power, and in my hands has proved itself far superior to peroxid of hydrogen, which has so largely supplanted it. It seems to deserve a more prominent place in laryngo-rhinologic therapy than it has at present.

In the treatment of the condition called singer's nodes, removal of these little outgrowths with cutting forceps seems most in favor at present, the galvano-cautery and chromic acid being regarded as too uncontrollable. In one instance, in which I was greatly elated at the neatness with which I had removed some singer's nodes with Fraenkel's forceps, the patient disagreeably surprised me by returning the next day voiceless. Terror of the operation has caused an hysterical aphonia that lasted three weeks. Removal of singer's nodes may not improve the voice as much as hoped for, so that patients must not be led to expect too much.

Among the modern methods of treatment to be considered is Laker's vibration massage directed toward the removal of hyperplastic states. It also affects pareses of muscles and hypoglottic swellings favorably, according to the author. Laker, by means of tetanic contractions of the muscles of the forearm, can make the end of a cotton-wrapped probe vibrate 600 to 2,000 times in a minute against the tissues of the laryngeal interior. Coarse motions do harm.

In chronic hypoglottic laryngitis we have a condition that is a constant menace to the life of the patient. The characteristic hypertrophic swelling of the subglottic mucosa is liable at any time to an acute increase that may suffocate the patient. Attempts at operative removal of the swelling below the cords is apt to cause this so that tracheotomy should precede all efforts to remove the swollen hypoglottic mucous membrane by electrolysis, the galvano-cautery or by means of the cutting curettes. Usually, however, the hypoglottic folds are unreachable from above, so that the operation of Sokolowsky, laryngofissure and excision of the hypoglottic mucosa is needed. Schoetz reports two cases in which iodid of potassium caused the subglottic swellings to disapear. There was no history of syphilis obtainable. In other cases the drug proved of no avail.

In conclusion two newer remedies are to be mentioned that have earnest endorsers, ichthyol, which is a non-irritating antiseptic with true astringent properties, causing contraction of vessels and paling of inflamed tissues. It is recommended by Hubbard in chronic laryngitis sicca. Methyl violet, pyoctanin, has great penetrating power, is a powerful germicide and non-irritating. I have had no experience with it in the larynx, but can confirm Breagen's statement that applied along the eschar after the use of the galvano-cautery in the nose it will prevent inflammatory reaction and suppuration. The subject under consideration is large, and I am aware of lack of detail in this article. I hope that it has brought into notice some methods of treatment that should have extensive trial.

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DISCUSSION.

Dr. E. Fletcher Ingals, Chicago—In spraying the larynx it often happens that the ventricular bands close and the spray does not reach the cords. I have overcome this obstruction by directing the patient beforehand to take a deep inspiration immediately after the spray has been applied and thus the liquid thrown into the vestibule of the larynx is drawn down on the cords. A remedy that has recently come into favor, which I have found of much value in tubercular cases, is the terchlorid of iodin; it may be used in a solution containing from one to two and one-half grains to the ounce of distilled water. It must be kept in a well-stoppered dark bottle and only the amount needed for one treatment should be turned into the atomizer at once. What remains in the atomizer after the treatment has been given must not be turned back into the bottle containing the original solution.

Dr. Robert Levy, Denver, Col.—The spray that Dr. Freer has shown us is very similar to one that I have used for some time. His instrument is an improvement over mine, however, in that mine is made on the atomizer and is of hard rubber, whereas his is made detachable and is applicable to any ordinary Davidson spray, which I think is an advantage. In some cases of acute laryngitis, in the form the Doctor mentioned at first, I have been accustomed to use adrenalin chlorid and I have had it used by the patient at home. Repeated applications during the day will keep up the ischemic action, which I have found of great advantage, especially in teachers and singers who must use their voice during the time of the treatment. I must offer a protest against intubation in cases of edema or in cases which are liable to become edematous in the course of the affection. It is a mistake to encourage increased edema by the introduction of the intubation tube. In those cases in which I have seen it used, the edema has continued above and below the tube; I have known it to occur below the intubation tube, but usually it is above. When surgical intervention is necessary, tracheotomy is the only resource.

Dr. Freer, in closing—In regard to Dr. Ingals' remarks as to deep inspiration during the spraying of the cords, I think this a good procedure when the larynx is not especially sensitive. When this is the case I use first a spray of cocain. In the majority of instances it is necessary to use the cocain spray before introducing my intra-tracheal spray tube into the larynx.

EDEMATOUS LARYNGITIS; WITH REPORT OF CASES.*

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The term edematous laryngitis is intended to describe a disease the underlying process of which is inflammation of a mucous surface, attended by serous transudation into the submucous tissues. To this disease many names have been applied, among which may be mentioned: Phlegmonous laryngitis, abscessus laryngis, edema of the larynx, erysipelas of the larynx, etc. Semon, in a paper on the subject, has called attention to the confusion which has resulted from the multiplicity of terms, and made a very commendable effort to simplify the matter by classifying certain types.

Much of the confusion which certainly does exist in the literature could be obviated if a distinction was sharply drawn between cases in which the symptom edema is present without inflammation, or, as Rice denominates these, the passive cases, and those in which inflammation of the mucous surfaces is an active and conspicuous feature. It is obvious from a study of the literature that much of the confusion has arisen from an attempt to classify under one head all diseases in which the symptom of edema is present.

My attention and interest was drawn to the subject by a case which has but recently been under my close observation. The history is as follows:

ACUTE EDEMATOUS INFLAMMATION OF THE LARYNX; CATARRHAL PNEUMONIA; PHLEBITIS OF THE LEFT LEG.

Case 1.—On Dec. 29, 1900, H. P., 55 years old, a driver by occupation, presented himself at the Polyclinic. His family and previous personal history was good. He had never been sick. About one week previously, he contracted a severe cold. There was nothing peculiar about this catarrhal attack, and he did not regard himself sick until his voice left him; and it was because of this symptom he came to the hospital.

On admission the voice was completely extinguished and there was considerable stridor in respiration.

Examination: The pharynx was intensely red—the nasal chambers filled with tenacious mucus. The laryngeal mucous membrane was extremely red and the lumen of the larynx much encroached upon by very marked edematous swelling—no view of the cords was obtained. There was much stridor in respiration, especially after a little excitement, e. g., in an attempt to make a laryngoscopic examination.

The condition of the patient in consequence of the laryngeal obstruction was so precarious that he was urged to remain in the hospital so that prompt measures could be taken to relieve him if it became necessary. Instructions were left the resident physician that preparation for immediate tracheotomy be made and that careful examination also be made of the urinary secretion.

He remained in about the same condition until Jan. 1, 1901. when there was marked increase in the stridor, he seemed to the resident physician to be in imminent danger, and I was called. It was evident, on a casual inspection, that the edema had increased. The face was bathed in perspiration and had that unmistakable distressed appearance so common in those in whom the respiratory functions are endangered. An attempt at scarification of the edematous tissue was determined on before resorting to the more serious operation—tracheotomy.

After a number of futile attempts, the tissues were finally thoroughly scarified. There was slight immediate relief, but much more a few hours later. The scarification was sufficient. however, to entirely remove all apprehension of danger from this source, nor was it necessary to resort to any further local measures throughout his illness, though, as will be seen, this continued for a long time.

The result of the urinary analysis was negative on Dec. 29, 30 and 31, 1900, and Jan. 1, 1901. On January 2 the specific gravity of the urine was 1028; a large quantity of albumin was present and there were numerous granular, hyaline and epithelial casts. The daily quantity of urine voided from the time of admission was from ten to fifteen ounces. This condition of the urinary secretion continued, with the exception of two or three days when the albumin disappeared, until January 21, when the quantity voided rose to fifty ounces, and there was a complete disappearance of all abnormal ingredients—these favorable changes occurring co-incidentally with a retrocession of grave pulmonary symptoms, to be adverted to later on.

Following the scarification, as above noted, there was relief to the extreme difficulty of breathing. There was still much stridor and the voice did not improve. The cough became incessant, with much expectoration of muco-purulent secretion. There was constant sweating and daily increase of temperature. The symptoms grew progressively worse and it became apparent that the inflammatory condition had extended to the bronchial and probably to the pulmonary tissues.

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* Read in the Section on Laryngology and Otology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

Dr. Riesman saw the case with me on January 15, and the following notes are the result of his careful examination: *Percussion*—resonance impaired over the entire chest, especially on the right side, to the inner side and below the scapula. *Auscultation*—abundant moist râles over both lungs; no bronchial breathing heard anywhere; a friction sound on the right side over the liver; heart somewhat feeble; no murmurs, no accentuation of the second sound.

The pulmonary symptoms lasted from January 2 to 18, when the temperature began to decline, and by the 21st it became normal in the morning. The urinary secretion increased markedly in quantity and all abnormal ingredients disappeared, the cough lessened and the muco-purulent discharge became less and was readily expelled. The patient was much more cheerful and seemed to be on the road to recovery. However, there was still much sweating—the temperature remained normal for three or four days, when it began to pursue a very irregular and zigzag course. The sweatings increased and he began again to seem quite ill. On the 23d the left leg became swollen below the knee, and was quite painful. The pain increased in the leg daily, and by February 1 a slight enlargement appeared in the popliteal space. By February 3 the swelling in the popliteal space had become softened and gave evidence of a collection of pus. Dr. Roberts made several incisions into the mass and let out a very large quantity of pus.

The further history of this case is more of surgical than medical interest. Several pockets of pus were opened and he continued in a rather unsatisfactory septic condition until April 3, when he was discharged.

The patient is by no means well. The pulmonary and thrombotic features of the case have entirely passed away, but he still has a great thickening in the larynx. His voice is better, but it is probably permanently impaired. There is no stridor except when he has slight catarrhal attacks, and then all the former symptoms of oppression and dyspnea return.

This case presents several features of interest. The apparently trivial onset, succeeded by laryngeal symptoms of gravity, is the first feature to attract attention. His illness occurred at a time when influenzal attacks were rife and, although the attack did not present the usual phenomena of that disease, the subsequent septic symptoms render it quite probable that there may have been infection from this source. We were at first inclined to the belief that the laryngeal symptoms were due to renal trouble, and force was lent to this view from the scanty urinary secretion, and the presence of albumin and a great number of all forms of casts. The subsequent history, in which we note the gradual diminution and final disappearance of these unfavorable renal symptoms, throws some doubt on the renal explanation of the case.

The one feature which stands out prominently, in reviewing the case, is the unquestioned septic condition. Immediately succeeding the laryngeal involvement, pulmonary symptoms developed. The examination by my colleague, Dr. Reiseman, failed to reveal any local point of consolidation, though the subjective symptoms at this time pointed toward the presence of croupous pneumonia. It was Dr. Reiseman's opinion that the pulmonary complication was due to diffuse catarrhal pneumonia of infective origin, and that in all probability the original attack was influenza.

During the continuance of the pulmonary symptoms, evidence of septic infection was shown by shivering, frequent copious sweatings, and an irregular temperature. After passing safely through the pulmonary attack and before cough and expectoration ceased, he showed other evidences of sepsis, the source of which was soon made manifest by the presence of a septic thrombus in the leg.

This case would stand well in Semon's group of cases and lend additional testimony to his theory. It seems probable that this particular form of acute inflammation is due to some pathogenic micro-organism.

It is a matter of regret that an examination of the pus from the abscess was overlooked. The sputum was examined on several occasions; at no time were tubercle bacilli found; pneumococci were found on several occasions.

The second case illustrates that form of laryngeal edema which is unaccompanied with the usual evidences of inflammation. Unfortunately the notes of this case have been destroyed, so that no detailed history can be given. The main features are so indelibly impressed upon my memory as to serve our purpose.

ACUTE EDEMA OF THE LARYNX; INTERSTITIAL NEPHRITIS.

CASE 2.—The patient was sent to me for the relief of a throat trouble which made breathing difficult. Of his previous history little could be ascertained. As he entered my office the stridulous character of his breathing and the very great effort of respiration was at once apparent. Respiration was a struggle.

An examination of the larynx revealed a pale red mucous membrane, covered by fluid blood, the submucous tissues infiltrated with serum leaving only a chink between the greatly swollen arytenoids; no view of the cords was obtained. The man's condition was so serious that he was urged to enter the Polyclinic Hospital so that every facility should be at hand for an emergency. He never reached the institution. The day following his visit to my office he was found wandering in the streets in the proximity of the hospital, in a semi-comatose condition and struggling for breath. He died before relief could be obtained. By the merest accident, knowledge of his untimely end came to me. The case was of such interest that steps were taken to ascertain where the man had been taken and, if possible, obtain an autopsy. After considerable difficulty we were successful in our search and also in obtaining an autopsy. It is a matter of great regret that the full record of the post-mortem findings are not available. These few facts are well remembered:

The larynx was filled with partially coagulated blood. The mucous membrane presented a shrunken, wrinkled appearance, similar to the hands of washerwomen, clearly indicating a previous effusion into the submucous tissues.

Both kidneys were contracted to an exceedingly small size and were corrugated and distorted. The capsule was everywhere tightly adherent. A well-known anatomist and pathologist, who assisted at the autopsy, expressed the opinion that death was due to rapid edema of the larynx, induced by chronic interstitial nephritis.

We have not the previous history to assist us in summing up this case; it is likely, however, that he had been a sufferer from chronic renal disease for a long time, and this sudden edema was simply one of the many serous transudations so common in cases of this nature.

The case well illustrates a type of laryngeal edema, totally different from Case 1, so different in every detail, save the single symptom, *edema*, as to make it difficult of comprehension how the two could ever be classed as identical pathologic processes. And yet it is this type of cases which has been classified by some authors under the caption "edematous laryngitis." During the course of the so-called zymotic diseases, e. g., smallpox, typhoid fever and measles, attacks of edema of the larynx may occur.

ABSCESS OF LARYNX DURING THE COURSE OF TYPHOID FEVER (?); EDEMATOUS LARYNGITIS.

CASE 3.—A. B., aged 15, passed safely through what seemed to be an especially severe attack of typhoid fever. In all fairness it seems proper to state that there was a difference of opinion among the attending physicians as to the nature of the primary attack, one side holding to the view that it was undoubtedly typhoid fever, while the other adhered to the belief that influenza followed by broncho-pneumonia with intestinal symptoms was the primal cause. Without entering into a discussion as to the claims of either side, it is sufficient for our purpose to know that the lad was very ill with hyperpyrexia, sweatings, cough, diarrhea, etc., for a period of six to eight weeks.

The worst features of the case seemed to have passed in this time, although the patient was by no means well, as evidenced by irregular febrile seizures and sweating and the formation of abscesses in various portions of the body. He had, however, regained his appetite, the bowels were normal, his spirits had revived and, to the eyes of the attending physician, he seemed on the road to recovery, when suddenly hoarseness and some difficulty in breathing appeared. These symptoms increased rapidly, so that within twenty-four hours the voice was entirely lost and great effort necessary to carry on respiration. Examination revealed markedly edematous arytenoids almost closing the glottis. Intubation saved his life for four weeks, when he sank, worn out by the septic infection. At the autopsy an annular abscess, or rather sinus, was found surrounding the larynx immediately below the vocal cord, having an opening into the larynx.

It is by no means certain that the abscess preceded the edema, although because of the general septic condition such an explanation of the case seems probable. It is conceded, in the light of the autopsy, that this case does not strictly represent a typical case of edematous laryngitis. During life, however, it was indistinguishable from such. It does represent a type described as abscessus laryngis, which is used as a synonym by some authors.

In my experience aphonia is not an unusual symptom in the convalescence from typhoid fever. In most of these cases this symptom is due to inherent weakness of the laryngeal muscles failing properly to approximate the cords.

A few cases have been observed in which interarytenoid edema has been the obstructing cause of faulty approximation. In all these, however, the symptom is a fleeting one and likely due to changes in the blood and also blood-vessels in consequence of long-continued illness, permitting serous transudation, passing away as the strength increases. These cases belong to the passive and non-inflammatory type of edema.

The active inflammatory cases, and these are rare, begin with evidences of local inflammation attended by rapid transudation. The symptoms do not readily subside, but become progressively worse and, unless active measures are taken for their relief, end fatally.

The last case to which I refer complicated an attack of measles.

SEVERE ATTACK OF MEASLES; APHONIA.

Case 4.—L. B., aged 10, during the course of an unusually severe attack of measles, became aphonic. Evidences of marked laryngeal stenosis rapidly supervened. I was hastily summoned by the medical attendant with a view of intubation. Examination showed the epiglottis and aryepiglottic folds markedly edematous. Because of this latter condition and the difficulty in making a proper laryngoscopic examination in a child struggling for breath, no view could be obtained of the interior of the larynx. It was presumed that the same condition existed as in the epiglottis and surrounding parts.

Immediate intubation was advised. The family physician yielded to the strenuous objections offered by the family and counseled waiting a few hours, to which I reluctantly consented. In two hours the child was seized with a severe paroxysm of dyspnea and died before we could reach the bedside. No autopsy was permitted. We are therefore not able to state positively that which we firmly believe to be the case, namely, that the larynx was the seat of edematous laryngitis.

The pronounced and very plainly visible edema of the epiglottis leaves no doubt in my mind that there was a true, inflammatory, submucous exudate in the larynx, and that the exciting cause was the attack of measles.

It is not at all unlikely that the bacteriologists of the future may, as Semon hints and believes, find the true cause, but in the light of our present knowledge we must be content to point out in our weak and very inadequate way those diseases in which edema of the larynx occurs, and ascribe to these some influence in its production.

The cases herein narrated have been observed in a special practice covering ten or more years. Three of these cases, 1, 3 and 4, were evidently due to some form of sepsis. The second can be explained by grave renal trouble and was not of septic origin. Many cases of edema of the larynx have been observed during catarrhal attacks, as the result of tuberculosis, syphilis or carcinoma, and the result of irritation produced by foreign bodies or irritating fluids which have no place in the type of edema which this report is intended to convey.

Sir Felix Semon, in a very able paper, endeavors to classify under one heading all cases hitherto described as acute edema of the larynx and pharynx, phlegmon of the larynx and pharynx, and angina Ludovici, and ascribes to them pathologic identity. To use Semon's words, "they merely represent degrees varying in virulence of one and the same process; that the question of their primary localization and subsequent development depends, in all probability, upon accidental breeches of the protecting surfaces through which the pathogenic micro-organism which causes the subsequent events finds an entrance, and that it is absolutely impossible to draw at any point a definite line of demarcation between the purely local and the more complicated, or between the edematous and the suppurative forms."

This is undoubtedly a step in the right direction in bringing order out of chaos in the terminology of these processes. One can not read the classic work of Semon without a feeling of admiration for the untiring industry and the patience with which he waited and labored on the subject before he brought his cases and the deductions drawn therefrom to the notice of the profession. In Semon's group of fourteen cases there is but one in which the larynx is alone involved. In the remaining thirteen there are associated varying degrees of inflammation and edema of both pharynx and larynx. Many of the cases appear in some way to be connected with a previous attack of tonsillitis. All of these cases, with the possible exception of the first three of the group, were markedly septic. He does not refer to the passive cases, and hence we infer does not regard them as belonging to the same group, a view in which every thoughtful observer must concur.

The conclusions which a study of the cases observed, and of the literature of the subject teaches, as to the etiology of idiopathic edema of the larynx, is that there are several types of cases:

1. Those in which there is no true inflammatory condition of the laryngeal mucous membrane, simply a transudation of serum into the submucosa—venous engorgements, the result of arteriocapillary fibrosis. To this group belong those cases seen in advanced chronic interstitial nephritis with cardiac and vascular changes. Cirrhotic conditions of the liver also may be responsible

for a certain number of cases, for here also are conditions found similar to the renal. To this group may also be added those mild and fleeting types of edema seen in the zymotic diseases, as already mentioned.

Transudation of serum into the submucous tissues does not occur as readily in the larynx as in serous cavities, or in the loose cellular tissues of an extremity, and in all likelihood requires an exciting cause to induce stasis—a cause furnished by a catarrhal attack or the enervating influence of long-continued illness. These cases are indistinguishable by the laryngoscope from the more actively inflammatory type, but differ widely in the constitutional derangement.

2. As to acute catarrhal attacks, every case of acute catarrhal laryngitis is accompanied by more or less thickening of the mucosa, as is evidenced by alteration in the voice. Submucous edema, however, we must all admit is rare. The records of all clinical services will furnish a fair number of cases of edema. Swollen posterior ends of the cord with interarytenoid thickening is quite a familiar picture. These are transient cases, ceasing when the inflammatory condition to which they are due passes away. It is certainly not easy to reconcile the pathology of this mild type of edema with the grave forms to be considered later.

3. Secondary septic processes complicating these diseases are classified by some authors as zymotic. Aphonia is not an uncommon symptom in these diseases, as has already been pointed out. Many of the cases of aphonia are transient. In still others the edema, to which the aphonia is due, is so excessive as to endanger life, and in these, symptoms of constitutional disturbance are apt to be pronounced. Here again is to be noticed two very dissimilar pathologic processes, save for the one symptom—edema.

The explanation is that one—the mild transient edema—is due to vascular changes incident to long-continued illness and passes away as the strength returns. The other—the severe prolonged edema—is due to septic conditions, sometimes a local abscess and greatly endangering life. These latter are observed in those in whom general septic manifestations have occurred.

4. As to the infectious cases, it is admitted that the line can not be sharply drawn between this form and the one preceding. My object is to point out in this group those cases in which the infection takes place immediately from the pharynx and larynx. The preceding group includes those in which the larynx is secondarily involved. To this group the term "Acute Idiopathic Infectious Edema of the Larynx" could with propriety be applied. It is to this class that Sir Felix Semon has endeavored to establish a pathologic identity and suggest the possibility of one pathologic micro-organism. The prevalence of epidemic influenza within the last decade or so has furnished many examples of this grave disease.

The history of the cases stamps them at once as of an infectious septic nature. The initial influenzal attack, or perhaps merely catarrhal attack, may not be severe. The local inflammatory condition and accompanying dyspnea is rapidly followed by pulmonary and general infection and sepsis.

The large number of cases of this form of infection, in which influenza has been associated, causes a suspicion that there is something in the latter disease favorable to the development of a product which finds a fruitful soil for its propagation in the mucous membrane of the pharynx and larynx.

It is conceded that the classification of the various forms of edema of the larynx herein attempted is imperfect or more or less artificial. The object of this paper will have been attained, however, if it leads other and better investigators to study the subject, the ultimate result of which will be a classification free from confusion.

TOTAL EXTIRPATION OF THE THYROID GLAND.*

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On Sunday morning, July 15, 1900, I was hurriedly summoned to attend a male, aged 16, and found him breathing heavily while sitting on the edge of a bed. His voice was clear, indicating that the obstruction was below the subglottic region. As he was quite cyanotic, he was placed in a chair with his head tilted back and a 2 per cent. eucain solution injected under the skin. The trachea was easily opened and a silver tube introduced. There was, however, no relief. Then a soft-rubber catheter was run down into the trachea, with instantaneous relief. His heart was in very bad shape, but he was watched closely during the night and strychnin and stimulants were freely administered. I left word that if the patient rallied I would remove the gland causing the obstruction. Next morning, Dr. Bingham, who had the case in charge, telephoned that the boy was all right and could undergo the operation.

E. W., aged 17; 11 months after operation.

It was proposed to operate under eucain, and about one-third of the gland was loosened therewith. The pain, however, was so great that chloroform was finally administered, after due notice had been given the parents of the risk run in the weakened condition of the patient. During the progress of the operation, the heart became quite irregular and weak and hypodermics of nitroglycerin, digitalis and whisky were given; but very little improvement took place. Subcutaneous injections of normal salt solution, of perhaps 400 grams each side, was then resorted to, and thus the patient tided over. After the gland was displaced, an attempt was made to sever it at the isthmus, but bleeding was profuse. Tying the vessels did not seem to make much difference; the forceps were therefore left in the wound for several days. The catheter was withdrawn the day after the operation and the wound allowed to close. He made an uninterrupted recovery and is to-day, June 4, 1901, in perfect health.

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* Read in the Section on Laryngology and Otology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

He has gained 30 pounds and grown 3 inches. He traced his trouble back but eight months, and the dyspneic symptoms about a week. The gland was very firm and weighed five and one-half ounces. The boy took sick at the beginning of vacation and was ready for school, September 1.

LARYNGO-FISSURE FOR PAPILLOMA.

A girl, aged 5, became quite hoarse, which condition was not relieved by treatment; two years later she was sent to me, and, as she allowed very little manipulation, I intubated her forcibly. After a week the tube was removed and some improvement seemed to take place, but soon the dyspnea returned and tracheotomy was performed. For the next two years I tried to have the little girl tolerate the instruments, but she would not learn. Finally I proposed to split the larynx, and this was done, on May 3, 1901. The incision extended from the cricothyroid membrane through the larynx to the hyoid bone, and as the larynx was pulled apart the growth popped out, as it were, and was removed with a snare. There was so much bleeding that nothing more could be done, and the larynx was closed with catgut and the outer wound treated in the same way. Union took place by first intention, and the little patient made an uninterrupted recovery. The tracheal tube was removed in two weeks. The growth was situated subglottic, immediately below the cords, postero-laterally, by a broad pedicle which can be plainly seen. Any recurrence will be reported to the section.

R. W., aged 9: 3 weeks after operation.

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DISCUSSION.

Dr. J. Holinger, Chicago—I would like to ask what the Doctor expects as to the possibilities of myxedema, according to the sense of Cobin, who has done several extirpations and uniformly found a condition develop which was extremely deplorable for the patient as well as for the surgeon.

Dr. Cott, in closing—The first symptom in this case was noticed about eight months before the operation. I will say that Dr. Kocher is the best authority on the subject, since he has done over a thousand extirpations and his son has done, so far, four hundred. In this case I left a little piece of the gland in the neck, perhaps a half or three-quarters of an inch, because of the bleeding. In order to control the hemorrhage I had to leave the forceps on for several days. It is supposed that when a portion is left, even if that portion be transplanted, as for example into the abdominal cavity or anywhere else, myxedema does not develop; hence, I do not expect it to develop in this case. If, however, that should occur, I shall report to the Section.

TYPES OF MEMBRANOUS PHARYNGITIS.*

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Under the irritating action of any one of several species of infectious micro-organisms, there exudes upon the surface and into the substance of the pharyngeal mucosa a whitish-gray deposit known as a false membrane or exudate. The histologic changes consist of necrosis of the epithelium and alteration in the vessel walls with the exudation of a coagulable albuminoid substance derived from the blood serum and mixed with fibrin, desquamated epithelium and leucocytes. While the membranes differ somewhat in physical characters and composition in accordance with the intensity of the inflammation and the species of infecting germ, the distinctions are so slight as to be unreliable in diagnosis, except in connection with bacteriologic examination, supported by a close study of the symptom-complex. A familiar form of diffused exudate in the pharynx is that excited by the Klebs-Loeffler bacillus, which receives the distinctive title of true diphtheria. Most of the other diffused pharyngeal exudates have been grouped under the name simply of membranous pharyngitis, but recently there has been an attempt to classify the types of membranous pharyngitis in accordance with the kind of infecting organism, and to affix to each its characteristic chain of symptoms and physical appearances. This classification is far from complete, and good examples with bacteriologic confirmation and close clinical study are still needful. There are forms of membranous pharyngitis which commence apparently as follicular tonsillitis, in which the exudate, failing to remain punctated and limited to the lymphoid structures, spreads over the pillars to the uvula and posterior pharyngeal wall. The closest scrutiny should be given these cases in order to exclude diphtheria, but this done it is sometimes found that the only organisms discoverable are those which predominate in tonsillitis, the various staphylococci and streptococci. The systemic symptoms vary much in these cases, and the limited number of cases yet followed seems to indicate that the dominating organism is the main factor in influencing the course of the disease. Thus we speak of staphylococcus pharyngitis, streptococcus pharyngitis, pneumococcus pharyngitis, etc., although in none of these as yet has the micro-organism been made to conform to all of Koch's postulates determining the specific relation of a germ to disease. The following case will serve to exemplify what is now known as staphylococcus pharyngitis, while presenting points of unusual interest with respect to repetition of attacks, the extensive distribution and brief duration of the false membrane and the slight constitutional effect.

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* Read in the Section on Laryngology and Otology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

Case 1.—Mr. S., an intelligent man of affairs, robust, and of middle age, gave a history of having previously had three attacks identical with the two about to be related, making five altogether. The first passed for diphtheria, but without a bacteriologic examination. The second occurred in Boston where a careful culture-test excluded diphtheria. The third occurred while yachting and without medical attention. The fourth attack, and first under the author's observation, commenced like an acute follicular tonsillitis when first seen, on the morning of Nov. 23, 1898. The temperature rose during that day to 103 F., but in the following twenty-four hours, while the membrane extended, forming an uninterrupted plaque over both tonsils and spreading over the pillars and velum, the temperature fell to 100 F., and the patient felt generally fairly well. By evening of the next day, November 24, the false membrane had extended over the posterior pharyngeal wall and both surfaces of the velum palati and had gained much in thickness. It so resembled diphtheria that antitoxin was given without waiting for the culture. The same evening, and the following day, cultures were repeatedly examined independently by the Chicago Health Department and myself, but exhibited mainly staphylococci, with positively no diphtheria bacilli. The membrane began to shred off on the third day, which was so like the effect of antitoxin on diphtheria that a culture was submitted for further examination and animal injection, to Dr. R. H. Harvey, pathologist to Mercy Hospital, who made the following report: The growth on Loeffler's serum shows mixed infection, mainly staphylococci. No Klebs-Loeffler bacilli were found. As a control test the culture was removed on a platinum loop and inserted beneath the skin of a guinea-pig, under aseptic precautions, with absolutely no effect on the animal. On the fourth day the patient was without fever and able to go to business, feeling quite well, although the membrane did not wholly disappear until the seventh day.

As the infection in this case evidently originated in the tonsils, and these were moderately hypertrophied, I subsequently made a thorough fragmental excision, with a view to preventing further recurrence. Nevertheless, 1½ years later he suffered a fifth attack. It commenced in the merest remnant of tonsil tissue, deep between the faucial pillars, and a profuse thick whitish exudate rapidly extended over the pharynx, as before. The local discomfort was but moderate, more than usual in diphtheria, less than in streptococcus pharyngitis. There was considerable fever the first day, but none thereafter, and no systemic depression, the patient going to business and coming to the office daily. The Columbus Medical Laboratory reported upon the culture as follows: "April 23, 1899, specimen from Mr. S.—diphtheria bacilli absent; pus cocci and saprophytic bacilli present. [Signed] Adolf Gehrmann." Of the pus cocci, in my own examination staphylococci very largely predominated. The patient received no antitoxin during this attack, neither did the false membrane seem to loosen and commence to shred off so promptly. Otherwise the duration and course of the disease was the same as for the previous seizure. It remains to be determined whether diphtheria antitoxin does not have some favorable influence in arresting and loosening membranous exudates other than those caused by the diphtheria bacillus, as appeared to be the case in this patient's fourth seizure. Its alleviation of the crustation and fetor of atrophic rhinitis indicates that its action is not absolutely confined to diphtheria.

It is impossible to assert that the staphylococci which so largely predominated in this case, was the real infecting agent. Efforts to reproduce membrane from it in animals have failed. It is possible that some other still hidden organism may be the real cause. Staphylococci are commonly present in the mouth and crypts of the tonsils. They seem to become actively pathogenic only under certain conditions; also, as in this case, a culture usually reveals more than one germ, mixed infections cause varying manifestations and interfere with a rigid classification; nevertheless, where one organism so largely predominates, together with an absence of the specific diphtheria microbe, especially when it is found that the principal germ species excites, respectively, characteristic symptoms, it justifies the recognition of types named from the dominating organism.

The characteristics of staphylococcus pharyngitis as exemplified by this case have also been formulated by Bullock,[1] cited by Wolfenden and by Jaques.[2] The temperature rises suddenly, 102 to 104 F., and falls rapidly on the second or third day, even while the membrane continues to extend. The constitutional effects are slight and the duration brief, recovery occurring in from six to eight days. The pain in the throat is but moderate. The membrane commences in the tonsils and thence extends. It may be profuse, thick, soft, whitish, not necrotic, and loosens or dissolves quickly. Membrane is little disposed to form in the larynx, although spasmodic laryngitis may be excited.

The condition is quite different where streptococci predominate, as exemplified by the following case:

Case 2.—Mr. D. J. E., aged 40 years, had distinct malaise and soreness of the throat for two days, succeeded by a chill and a temperature of 104 F. His pulse was 100, skin perspiring, face flushed, and there was mental hebetude and enlargement of the cervical lymphatic glands. The tonsils were only slightly enlarged, but were deeply congested, and exhibited at first a punctated exudate which soon formed a plaque and extended in the form of a thin milk-like film over the anterior pillars and part of the velum. The rest of the throat was highly inflamed and very red and sensitive. Convalescence was not complete for about twelve days. No diphtheria bacilli, but numerous streptococci associated with staphylococci were found.

Thus the average characteristics of streptococcus membranous pharyngitis are a more gradual rise and decline of the temperature, likewise reaching 102 to 104 F. The systemic depression is pronounced and the duration ten or twelve days. The membrane is apt to be thin and scanty, of slower formation and longer duration. The throat elsewhere is highly inflamed, very red, and perhaps edematous. It may border upon or be identical with erysipelatous pharyngitis or pass into a phlegmonous pharyngitis. The throat is very painful and the cervical glands swollen. There is a decided tendency to involvement of both the nasopharynx and larynx. In the larynx edema and swelling, as well as membrane, are causes of stenoses, and uninfluenced by antitoxin, while intubation must be maintained for two or three weeks.

In scarlet fever the pseudomembranous type of pharyngitis may evolve from the primary inflammation during the first few days, or it may not appear till about the second or third week, as if it were a secondary infection by the diphtheria bacillus as, indeed, it often is. Heretofore the primary inflammation has been ascribed to a streptococcus infection, but recently Class[3] demonstrated what seems to be the specific organism of scarlet fever, a large diplococcus, which is present in the blood, scales and throat. Other organisms, especially streptococci are present and doubtless exert an influence. Diphtheria bacilli are present in from 10 to 50 per cent. of scarlatinous exudates.

Pneumococcus membranous pharyngitis, due to Fränkel's organism, almost to the exclusion of other germs, has been demonstrated,[4] but as yet I have been unable to verify, by precise bacteriologic methods, cases in which, from the association of pneumonia, I have suspected this condition. The pharyngitis is said to be ushered in with rigors, high fever and pronounced exhaustion. The false membrane is white, fibrous and resistant and ceases to form at the end of a week.

Emil Mayer[5] has recently reported a case of chronic recrudescing membranous pharyngitis, determined by elaborate bacteriologic methods to be due to the bacillus of Friedlander. The enamel-white membrane would recur at intervals of a few days, always cover the soft palate and sometimes the entire pharynx, remain one or two days and then exfoliate. Five other cases, some of them acute, are reported in the "Annals of the Pasteur Institute."[6]

A membrano-ulcerative angina in children, in which ulceration always follows membrane formation, is described from Paris, by Athenasin,[7] as due to the conjoined presence of the fusiform bacillus and the spirillum of Vincent.

Also, thrush, aphtha or soor, due to the oidium albicans, while usually discrete and affecting the mouth, occasionally becomes confluent and involves the pharynx, when it constitutes a type of membranous pharyngitis. It affects mostly children and adolescents, but likewise adults who are debilitated from other causes. I have observed it in advanced tuberculosis, when it is apt to hasten a fatal termination.

Pharyngitis leptothricia, while usually chronic and confined to the tonsils and lymphoid tissues, may involve the pharyngeal mucosa and even occur in an acute form, as in one case which simulated diphtheria.[8]

Still other conditions which should be kept in mind in making diagnoses are the mucous patches of secondary syphilis, herpes and pemphigus, all of which, while commonly discrete, do exceptionally occur in the pharynx in diffused confluent form, closely simulating membranous pharyngitis.

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DISCUSSION.

Dr. Emil Mayer, New York City—The Doctor has, in his usual way, presented the subject so thoroughly that there is but little to add. I would only emphasize the need of further examination beyond the mere throwing in of light and visual examination. In the case that the Doctor mentioned of membranous pharyngitis that was under my care, the method of bacteriologic examination was carefully described in detail, because nothing of the kind had been done before. In every one of these cases coming to us, in which there is the slightest question, the most thorough examination should be made. The disease remains for a long time; just as in the skin, so it is in the mucous membrane of the pharynx. But in the case cited there was simply a marvelous amount of exfoliation. In a few days' time there was a white coating covering the whole of the soft palate, which in a few days would disappear again.

Dr. B. R. Shurly, Detroit—Most interesting would be the prognosis, which we would immediately figure upon, if we knew the bacteriological identity of the various forms. Our treatment must be modified by the special form of germ with which we have to deal. Also, the relative tendency of these different bacteriological forms to invade the adjoining mucous membranes would be a most important problem. The natural tendency of about 15 per cent. of the Klebs-Loeffler exudates to invade the larynx is very familiar to us, and it would seem to me that the exudates arising from these other modified forms of membranous involvement would carry with them a much less number of laryngeal involvements.

Dr. Emil Amberg, Detroit—In connection with this subject I should like to call attention to a statement made by a Detroit physician, before a medical society. About a year ago he had a case of scarlet fever in a family with several children. He used antitoxin with other members of the same family, as a preventive measure, and he thought the antitoxin prevented the further spread of scarlet fever. A similar statement was made by a French physician, if I am correct. I would ask Dr. Casselberry in closing to enter upon this most important point. Naturally as mere hypothesis I may suggest that we, perhaps, may get a better knowledge of the pathology of these conditions exjuvantibus. It is not impossible that we may have in future, instead of the differentiation which is going on nowadays, perhaps a unification.

Dr. J. Holinger, Chicago—One of the main features is the fact that we can not depend upon the looks or the extent or any other characteristic of the membranes in the differential diagnosis between the true diphtheric membrane and the streptococcic or staphylococcic or any other form of membrane. You know the diagnostic point was given that the diphtheric membrane is usually more compact and in patches and pretty early transgresses the limits of the tonsils. On the other hand the other membranes, the streptococcic membranes, are much more limited to the tonsils and not quite as voluminous. Such a differentiation is absolutely impossible. A case came under my observation only a short while ago. A friend of mine, a physician in Chicago, complained just a little of sore throat, hardly any of malaise, and in a largely joking way he asked us to look into his throat. There was scarcely anything to see, but I advised him to have a bacteriological examination made. He went to the health office and came back with a diagnosis of diphtheria. The Klebs-Loeffler membranes have been observed to disappear in a short time, so that the diagnosis must depend upon the microscopic examination.

Dr. Casselberry, in closing—I would emphasize what Dr. Mayer has said in reference to the thoroughness of bacteriological examinations in all these cases, and especially in those in which the diphtheria bacillus is suspected. Now, while I have reported these cases, one as a streptococcus pharyngitis and the other as a staphylococcus pharyngitis, it is questionable whether those micro-organisms are the fundamental causes of the conditions. They may multiply without being the actual infecting organism. But no other organism having been found, these are assumed to be the cause of the disease. In regard to herpes, you will remember that it was mentioned in the paper as one of the conditions that must be distinguished. Under certain conditions, it might be very difficult to differentiate herpes from other types of membranous pharyngitis where there was no herpes elsewhere on the skin surface to suggest herpes of the throat. I am satisfied from experience that the streptococcus inflammation does often extend to the larynx; perhaps not as often as the membranous exudate of true diphtheria, but with some frequency, and these cases are little influenced by antitoxin. Edema is a prominent feature in them. The suggestion regarding the possibility of antitoxin exerting a favorable influence on other types of pharyngitis, not diphtheric, I simply throw out as a possibility. We know that the use of normal salt solution and several other substances injected into the circulation stimulates the organism. It is possible in certain forms of pharyngitis other than diphtheria, that antitoxin may have a beneficial effect.

THE RELATION OF THE MIDDLE TURBINATE BODY TO CHRONIC NASAL DISEASES.*

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Chronic nasal catarrh is so prevalent on this side of the Atlantic as to have received the epithet of "the American disease," and the failure of medical men to find means for the cure or amelioration of the disorder has become an opprobrium to the profession and a prominent feature in the bids of the charlatans for patronage. We can not ignore the influence of climate and habits of living among us as the exciting causes, but there are long periods of the year in which these are not especially active in keeping alive the trouble, so we must seek elsewhere for the causes which operate to prevent the natural tendency to spontaneous recovery which exists in the presence of acute nasal disorders.

The easy accessibility of the inferior turbinate body, and its proneness to participate in all nasal irritations and respond by swelling and producing nasal obstruction, has made it the scapegoat for the rest of the offending organ. and it has been seared and cut, pinched and stabbed without mercy until, if it had had a tongue, its prayer for relief would have ascended to the skies.

Acute observers long since recognized that chronic nasal disorders existed which were out of the sphere of influence of the inferior turbinate, but the weight of authority favored nasal stenosis as the chief cause of nasal disease, and the possibility of other factors being more active than this one was overlooked. My purpose in the present paper is to call attention to the much greater influence which the middle turbinate has upon the course and progress of nasal disorders, in the hope that it may assist the work of others along the same line, and sooner usher in the day when we may promise our patient with chronic nasal troubles a cure which will stay a cure.

In this, as in other diseases a knowledge of the anatomy of the organ involved must first be had before we are in position to know what are pathologic changes: hence, I will hastily review the anatomy of the middle turbinate.

The middle turbinated body is so located as to be in the most intimate and important relations with the meatuses and accessory sinuses of the nose, the olfactory nerve and the most sensitive portions of the septum

In its normal state this body protrudes from the side wall of the nasal chamber and is bent sharply downward. lying parallel to the septum and midway between it and the lateral wall. It occupies most of the space between this wall and the septum from its point of attachment down close to the superior surface of the lower turbinate.

In the living subject the space between the turbinate and the septum or turbinate and side wall varies between one-twentieth and three-sixteenths of an inch, but this space may be obliterated by swelling of the membrane or hypertrophy of the bone.

The turbinate covers the outlets of the maxillary antrum; the hiatus semilunaris in which are the orifices of the anterior ethmoid cells and of the frontal sinus; while its rear portion is in close relation with the sphenoidal foramen, all of which openings are the outlets for considerable sized cavities liable to inflammation consecutive to disease of the nasal membranes.

The soft tissues of the middle are much less erectile than those of the inferior turbinate and when thickened are less amenable to shrinkage by medicinal means, as cocain, suprarenal extract, etc.

The shape and size of the middle turbinate varies considerably within what may be termed physiologic limits. For instance, it may be thin and knife-like from front to rear, with uniform thickness and equal spacing from the lateral walls. Again, its attachment varies greatly, sometimes being low down and again very high; the horizontal portion may be wide or scarcely demonstrable; the anterior and the middle or the posterior part may be either wider or thicker than the balance of the bone. According to these variations does the anatomical relation to the surrounding tissues vary, but so long as there is no pathologic change or inflammation present these variations do not signify.

The bone is very thin, being filled with pneumatic cells with fragile lamellar walls. From various causes, developmental or nutritional, these cells are prone to enlargement, altering the structure, shape and relations of the bone to surrounding parts.

The soft tissues overlying the middle turbinate bone become edematous when inflamed or irritated by discharges from neighboring cavities, and by their swelling close off the upper meatuses and the outlets of the various sinuses. The sinuses are slow to become involved in inflammations of the nasal cavities, and are also slow to recover from them. They are occluded by the swollen turbinate, which in turn is irritated by their discharges, and the condition is thus self-perpetuated.

With the obstruction of the meatuses acute inflammations soon pass over into chronic, and a creamy pus exudes continually, which running over the mucous membrance, produces granulation tissue just as a similar discharge elsewhere, and the abundant serum supply, aided by gravitation often makes them hypertrophy to an enormous degree.

The mucous membrane of the middle turbinate, having to stand the brunt of the irritation, is the first and very often the sole seat of polypoid growth. Every one who removes polypi with the snare, under good illumination, will have seen, on removal of those lying toward the maxillary antrum, a gush of pus as if the stopper of a bottle had been removed. This issues from some of the sinuses and, however frequently and thoroughly you may remove the polypus, you will not usually cure the discharge except you remove the turbinate, owing to the swelling of the membranes retaining the discharge until new polypi form. The most careful extirpation with snare, curette, caustic or cautery will not cure them until the turbinate is removed either in whole or part.

Very often polypi are concealed above and behind, and can not be seen or reached by the probe, and yet are found on removal of the turbinate, it would be impossible to cure such a case and leave the turbinate *in situ.* It is a common practice to cauterize the base from which polypi have sprung, with a view to checking their formation, but my experience is that this procedure fails more often than it succeeds, while it is a fruitful source of adhesions which are very obstinate to removal. In some of these cases the number of polypi concealed by the turbinate is astounding, equaling or exceeding those that were visible before it was taken out.

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* Read in the Section on Laryngology and Otology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

In a paper before this Association, read at Columbus, Ohio, Dr. Holmes stated that "hypertrophy of the middle turbinated . . . is, like the polypi so often associated with it, generally secondary to empyema of the accessory cavities." This has come to be the view of many competent observers, and I firmly believe that the oftener removal of the turbinate is practiced in this condition the more firmly will the profession become convinced of the soundness of this position. A second indication for removal of the middle turbinate is sinus occlusion by swollen membrane which is not yet polypoid and which does not respond to the recognized modes of treatment by cleansing and disinfection.

In this class of patients the membrane seems irritable and swells to the occlusion of the sinuses, but either from the pus being produced by other organisms or because of individual difference in resisting power does not go on to form a polypus. No method of cleansing which has ever been used will be efficient with these patients until the obstruction is removed, and this is impossible while the turbinated body is left *in situ.*

I have known two of these patients to die from cerebral involvement, who I am sure could have been saved by early removal of the turbinate so as to provide free drainage from the infected sinuses.

A third indication for removal of the middle turbinate is fetid crusting of the discharges on the upper portion of the nasal chambers, in nonspecific cases. Cobb[1] refers to the cure of cases of pharyngeal crusting by removal of the hypertrophied rear portion of this bone, and in case this can be demonstrated to be the only part involved it is sufficient, but I extend the operation to the whole bone whenever the crusting extends to the middle or anterior portion of the middle fossa.

A fourth indication for removal is so-called "bullous hypertrophy," which is not a true hypertrophy of the bone, for the cells are simply ballooned out and the mucous membrane overlying is atrophied. The inferior turbinate is sometimes entirely absent as a result of the atrophying process extending to the whole nasal chamber.

The membrane overlying the middle turbinate will be found covered with a number of bluish umbilicated spots resembling the mouths of tonsillar crypts. Secretion is excessive but dries and crusts, and the only cure is removal of the bone, which appears to be the focus of infection. It is remarkable how rapidly such a patient improves after the operation.

In the fifth class, as has been mentioned, on the septal side the turbinate lies in close proximity to the most sensitive area of the nasal mucous membrane, and when contact occurs various disturbances of the nervous system arise. Thus are produced severe sneezing, coughing, nasal reflex asthma, hydrorrhea, headache, various eye reflexes, vertigo, tinnitus and even chorea and epilepsy, any one of which may be severe or obstinate enough to require removal of the bone as the offending cause. I have in the past year had two patients in whom peristent and ceaseless sneezing was the only symptom, but who were cured by this means after failure of other remedies.

A sixth class is that of vasomotor rhinitis, running along into other than the normal period of the year, who with the return of patency and improved breathing still suffer from pressure, sneezing, asthma, reflex cough or congestion of the eyes. On examination the turbinate is found crowding tightly against the septum and does not admit the thin probe after a liberal use of adrenal extract. I do not contend that removal of the turbinate will cure such a case without other treatment, but it will greatly shorten the period of suffering, which is a priceless boon to these patients.

I operate as follows: After as thorough cleansing as possible I apply 8 per cent cocain with a pledget of cotton on the applicator, followed by thin pledgets laid along the upper surface and between the bone and outer wall, where they remain about ten minutes. Suprarenal extract or adrenalin is then applied, which procures an almost bloodless operation. Holmes's middle-turbinate scissors, right and left, are then used, and the attachment of the bone to the lateral wall divided from before backward. If the rear portion is out of reach of the scissors it is cut off with the snare. The cavity is packed with a long thin strip of iodoform gauze, which is removed usually on the following day and generally no more packing is required. Frequent cleansing with borax solution is done by the patient, and healing is promoted by insufflations of dematin, a lead iodid compound, which for this particular place has proven better than any other substance tried. Performed in this way the operation is painless and practically bloodless, and brings to a satisfactory end many otherwise tedious or hopeless conditions of disease.

DISCUSSION.

DR. J. F. BARNHILL, Indianapolis—It must be quite clear to all who practice rhinology as a specialty that we must often look beyond the nasal channels themselves if we would find the seat of the nasal disorder we are called upon to correct, for it is undoubtedly true that in many instances the discharge of which the patient complains, and the suffering he endures, is located entirely beyond the nasal fossæ. This fact is becoming so well understood that many rhinologists are beginning to look upon the nasal fossæ as being only the ducts of the accessory sinuses, and one of the main functions of which is to carry off the secretions of the large mucous area lining these several cavities. Now several of these sinuses empty into the nasal fossæ at a point in such intimate relation to the middle turbinate body that the latter organ can not become much enlarged or otherwise diseased without seriously interfering with sinus drainage, a fact I believe entirely sufficient to explain the pathology of a considerable percentage of nasal diseases. The various operations which the essayist has advised and described for the betterment of the drainage of this region, are rational procedures, and when done for the purposes of relieving pressure symptoms or defective drainage are as beneficial as almost any other intranasal operation with which I am acquainted. In regard to the cauterization of the bases of polypi after their removal, I must confess that I have felt skeptical of anyone's ability to locate the base sufficiently well in cases where the growth has been as well removed as it should be, to be able to cauterize it without doing harm to the surrounding parts. Cauterization of any part under the middle turbinate body and in the vicinity of the ostium maxillare, is apt to result in too much inflammatory discomfort, and personally I have always felt satisfied I had done the best for my patient when I had removed the growth so closely that I was afterwards unable to find any base to cauterize.

DR. W. E. CASSELBERRY, Chicago—I agree mostly with what the essayist has said in reference to this operation and the indications for it. I think he has drawn clearly the indications for the removal of a part or the whole of the middle turbinated body, and there can be no doubt that great benefits accrue to the patient in consequence of the operation. However, I consider that the need for the resection of the middle turbinated body should be real and evident and that the operation should not be made for trifling catarrhal changes. Polypoid degeneration; to promote access for radical removal of nasal polypi; to promote drainage from the ethmoid cells in edematous and suppurative ethmoiditis and to allay pressure symptoms, especially in certain cases of asthma and migraine, are the main indications. In most cases of empyema of the maxillary sinuses drainage by this means alone is inadequate. The operation is not devoid of danger either from infection or from hemorrhage. Adrenalin certainly limits hemorrhage at the time of operation, but often it is far from bloodless at the moment, and secondary hemorrhage is frequent and may be profuse, even dangerous. I have recently seen in consultation such a case which required thorough anterior and posterior packing to control the continuous profuse bleeding. Adrenalin failed to control it. Adrenalin appears to be followed by a secondary turgescence, similar to the reaction of cocain, which seems to favor secondary hemorrhage; but it is not the sole cause, for subsequent bleeding occurs even when adrenalin is not used. The only safeguard is to pack the field immediately after the operation with iodoform gauze or surgical lint, which may remain a day or two.

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[1] Archives of Otology, vol. xxix, Nos. 2 and 3.

DR. G. V. WOOLLEN, Indianapolis—I am very much pleased to see the tendencies that we witness in this paper. Among my first trainers was Woakes of London, who was then very much hooted at as being a fanatic on necrosing ethmoiditis. I was impressed that the middle turbinate was the chief offending point in the nose. Years ago I read a paper before the Mississippi Valley Medical Society on nasal differentiation, and I still think that the idea should be carried forward, that we should not treat the nose as a whole, but that we should differentiate between the different parts of the nose. Dr. Casselberry and some present may remember my paper at Detroit, which was on the "Anterior Tip of the Middle Turbinate." When we come to consider the middle turbinate we have to differentiate as to its difficulties, and the various other things that we have to deal with. I have never heard of any one calling attention to the various cavities that empty into the nose and nasopharynx by number. There are fourteen of them. Four of the cavities that drain into the nose are influenced by the middle turbinate. I had recently a case of great interest, wherein an attempt had been made to deal with antral disease through the mouth by removing a tooth; it was wholly relieved after removing the middle turbinate and getting out four pieces of curled wire through the nasal opening that had been used to keep the opening in the mouth free. My experience is that we can deal with the antral cavity very often through the nose. I can understand how the constriction of the orifices take place in some cases, but the more I deal with the middle turbinate the more I am convinced that we may accomplish very much. I have found the greatest difficulty where there is a general deviation of the septum, above which, you have a large turbinate. I was scored very freely in my early experience because I called attention to the middle turbinate as the offending point, but we are awakening to the fact that the initial lesion of the catarrhal disease is largely in the ethmoidal region, the veritable "storm center."

DR. C. M. COBB, Lynn, Mass.—It appears to me that we can not emphasize too strongly the importance of drainage in the nose. So far as I can discover there is no essential difference between a chronic discharge into the nasopharynx and a chronic discharge into any other part of the body. You simply have a cavity to drain, and the drainage is sufficient; hence, the constant or intermittent discharge into the nose or throat. The gynecologists have gone over practically the same ground. They have had their stage of catarrhal inflammation and their stage of ulceration. They have at last learned that a chronic discharge means a diseased cavity which is not well drained. In rhinology, the whole point is the question of drainage from the accessory sinuses. If you secure drainage you remove the toxic infection. I wish to call your attention to the fact that often the anterior part of the middle turbinates is not developed; and the middle turbinate may be very small. In a large proportion of the cases of chronic catarrhal pharyngitis, the middle turbinate, if not well developed, contributes to the condition.

DR. D. A. KUYK, Richmond, Va.—Dr. Baker did not mention a condition that has been of much interest to me, the disturbance of mentality produced by hypertrophy of the middle turbinate. I have had quite a number of cases of profound disturbance of mentality cured by the removal of the enlarged middle turbinate. The absolute constancy of the pressure, day and night, produces in certain patients a condition of mental disturbance that is alarming; there is no cessation of the discomfort; relief is sought in vain. The patient becomes morbid, discouraged; loses all power of resistance; realizes that his mind is no longer what once it was; yields to his own fears of mental unsoundness, and becomes the victim of dire despair.

The removal of the offending turbinate relieves his symptoms. A good tonic treatment, with insistent and persistent encouragement, soon pulls the victim out of his slough of despond and restores him to his former self.

After intranasal operation when I pack I use cotton. Gauze seems to insinuate itself into every crack and crevice, to hang on to every minute bony spicule or irregularity. It is so strong that no matter how well it is soaked before removal, it pulls and tears the tissues, causing often an uncomfortable hemorrhage, no matter how carefully it is removed. Cotton, when any is adherent, does not injure the tissues; for, only the loose cotton is removed, the little adherent particles remain *in situ;* they do no harm and in a day or two come away of themselves.

As a styptic, a 20 per cent. solution of alumnol and undiluted hydrogen dioxid of each equal parts, is in my hands most satisfactory. I believe the internal administration of 10 grs. quinin, 5 to 10 hours before operation, diminishes the amount of blood lost during the operation. Especially was this so before the use of suprarenal capsule solutions; it lessens the danger of secondary hemorrhage.

DR. E. FLETCHER INGALS, Chicago—I have found very satisfactory, surgeon's lint thoroughly impregnated with boracic acid and iodoform. It may be left in place three to five days, if the physician sees fit; but usually two or three days is sufficient. I can not see any objection to having the patient use adrenalin every hour or two as long as may be necessary, but I doubt whether it would stop a hemorrhage from a vessel of any size. I do not think it would stop hemorrhage from one a millimeter in diameter. In the management of the turbinate I prefer to remove the bone beneath the mucous membrane, by means of a very rough dental burr, which can be easily done without sacrificing the mucous surface. I think the after-results are better.

DR. EMIL MAYER, New York City—The method I employ is that described by Dr. Casselberry. I think I can answer the question suggested by one speaker as to the lasting effect of the suprarenal extract. I am one of those who believe that out patients should not go any distance away and especially that they should not go about unless the nose is packed. I pack all my cases. In two cases I put the patients to bed and did not use any packing, but I used only the hemostatic that has been referred to and in two days' time I found they had entirely healed. In one I used it every two hours. The preparation I used then was adrenalin. The effect was very satisfactory, but we should all remember that long before the days of these hemostatics patients were operated upon and put to bed and no packing used. Dr. Holmes of Cincinnati, for instance, reported such cases; they were operated upon in a hospital and put to bed. Probably one reason why many of us have better success is because we treat these cases carefully, especially as regards after-treatment.

DR. J. HOLINGER, Chicago—The main feature in the removal of the turbinate is the drainage that may be secured in disease of the mucous membrane, or it may be of the submucous tissues. However, I would like to place a case on record in which a different part was affected. I may state in the beginning that there was no syphilis in the case. A man about 55 years of age had been treated in various places and a number of polypi had been removed during a period of six or eight months. Every two weeks or so a new lot had been removed. I followed the same procedure at once and removed a mass of the polypi. The second time he came a peculiar mobility of the middle turbinate struck me. There was a polypus on the septal and on the turbinate side that induced me to amputate the whole of the turbinate. With a long snare I got nicely around it and the result was I found the whole turbinate bone was separated in very small chips, perhaps the size of a split pea, and between there were sharp demarcation lines. It was clearly a case of osteitis of the middle turbinate and the polypi that were secondary of course could never be expected to be removed entirely without the removal of the turbinate.

Dr. Baker, in closing—In regard to the matter of packing after an operation I think it makes very little difference what is used for the packing. You may, if you like, use punk with success and it is advantageous in that it does not insinuate itself between the spiculæ of bone and the adjacent tissue, and you are less likely to have hemorrhage when it is removed. As to putting the patients to bed, those of us who are fortunately placed may profit by that plan of treatment. But often we can not do that. For instance, in my practice I must often operate upon patients and have them take a railway trip immediately after the operation and go under the care of some other physician. I had one patient who previous to the operation had retained pus in the cells and every time a polypus had been removed there had been a free discharge of pus. The adjacent cells were curetted and he was sent home, but he reached home in an almost unconscious condition. His physician did not recognize the fact that the nose had been packed until some hours after the patient arrived at home, and it was left in altogether about eight hours; there was a cerebral infection and the patient lost his life. I feel I am in a way responsible for his death because I packed the case and let the patient go home. We should I think keep our patients under very close observation. In regard to the adrenalin producing subsequent hemorrhage, I have used the extract for five or six years, in fact ever since it first appeared on the market, and I do not see that I get any more secondary hemorrhages than before I used the adrenalin. It is a great benefit to be able to see every step of the work, as you may when you use the suprarenal extract or the adrenalin.

ACUTE EDEMA OF THE NASAL SEPTUM.*

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Acute edematous inflammations of the soft structures of the mouth and throat are comparatively common, especially in the tongue and uvula, but appear to be extremely rare in the nose. Thus, while vascular dilatation of the mucous membrane and the erectile tissue are the usual accompaniments of acute rhinitis, I have not been able to find, in an examination of the literature, any account of acute intranasal inflammations characterized by edema. Two instances, however, of this condition have come under my observation. In one of them it was possible to excise the whole edematous area for microscopic examination.

Case 1.—The patient, a young married woman, 25 years of age, who had always been in good health, came, Aug. 15, 1898, for a blocking of the left nasal passage, with fulness and impairment of hearing in the left ear, of ten days' duration. There had been a slight sore throat at the beginning, which had passed off in a few days. There were no constitutional symptoms, nor elevation of temperature. There was no abormal nasal discharge anteriorly, but she complained of a moderate amount of nasopharyngeal dropping. Examination showed, in the left posterior naris a globular mass about 1.5 cm. in diameter, bright red, with smooth surface, completely filling the choana. It was not possible to see its point of attachment. The right choana appeared normal in outline and color, except for a slight swelling of the erectile tissue of the septum over a limited area of about 1 cm. on the right side, immediately behind its posterior end. This swelling was pale bluish-pink, but was not greater than the tumefaction in this region so often seen in chronic rhinitis. The pharynx, larynx, and anterior nares showed nothing abnormal. The left ear showed a moderate acute serous inflammation.

A simple oily spray was given for local use, and calomel administered in sufficient quantity to cause free catharsis. Four days later the left postnasal mass had shrunken to about one-half its former size, and appeared as an irregularly lobulated rounded mass, pale-pink in color, growing with a broad base from the left side of the septum, immediately in front of its posterior extremity, occupying in fact the corresponding site of the slight swelling of the right side above mentioned. The turbinates of the left side could now be seen posteriorly, and showed nothing abnormal. The serous catarrh of the left ear had diminished, and the hearing on that side had improved. On Aug. 25, that is, in three weeks, approximately, from the beginning of the symptoms, the mass had entirely disappeared, and both sides of the septum, seen in posterior view, were alike. The left ear appeared normal.

The patient then remained well until December, 1898. On Jan. 3, 1899, she consulted me, saying that for the past ten days she had been suffering from a severe cold associated with some sore throat and impairment of hearing on the left side. There were moderate constitutional symptoms of malaise and loss of strength, but little, if any, elevation of temperature. Examination showed a reddening of the nasopharyngeal mucous membrane without swelling. The septal mucous membrane was slightly reddened, but otherwise normal. The left ear showed a slight serous inflammation. Under a mild spray the symptoms and evidences of inflammation disappeared. On January 16 a light application of chromic acid was made to the left lower turbinate anteriorly, as this showed a certain amount of relaxation. Three days later the patient returned, saying that on the day following the cauterization she began to experience a filling up behind the palate, with nasal occlusion, at first left-sided, but now becoming bilateral. The left ear simultaneously became extremely deaf. There was at this time no fever, and constitutional symptoms were absent. Examination showed, lying on the upper surface of the soft palate, an irregularly globular mass, somewhat flattened above and below, bluish-pink, translucent, smooth, with numerous pinhead-sized whitish spots studding the surface. In size it was about 3 by 4 cm. in diameter. It filled completely the nasopharynx, so that neither vault nor septum was visible. A snare with a recurved canula was introduced through the mouth, and the wire slipped, with some difficulty, around the mass, when it was completely removed. The hemorrhage was slight. After removal, the mass was seen to be flattened, oval in shape, firm and elastic, resembling in appearance a mucous polyp. Post-rhinoscopic examination now showed its point of attachment to the area on the left side of the septum, which had been the site of the former swelling. This appeared now as a smooth area about 1 cm. in diameter, marked by a thin blood clot. Healing of this surface progressed rapidly, and on January 31, two weeks after the operation, the mucous membrane was smooth and closely adherent to the septum, differing in this respect from the corresponding area of the right side, which showed the circumscribed area of tumefaction previously referred to as so often seen in chronic rhinitis. The left ear was normal.

The patient remained well until April of the same year, when she came saying that she had a cold in the head for one week, but that there had been little, if any, blocking of the nose. Examination showed a somewhat reddened nasopharynx. The right posterior septal tumefaction was slightly larger than on last examination, and was of a pale, bluish, translucent color. The corresponding place on the left—the former site of the edematous tumor—was smooth and flat. There was no impairment of hearing, and the ears appeared normal. The acute symptoms disappeared in a few days.

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* Read in the Section on Laryngology and Otology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

Pathological Anatomy.—The excised mass was divided into several smaller portions, of which some were fixed in alcohol, and others in Zenker's fluid. Sections showed the following histologic appearances.

The mucous membrane consisted of from three to six layers of columnar epithelial cells, without evidence of ciliæ. Here and there the mucous membrane was absent or represented by tattered and loosely hanging columns of cells, while in several places vertical cracks and fissures through the mucous membrane were apparent. The individual epithelial cells seemed essentially normal. In the intercellular spaces were seen a few polynuclear neutrophilic leucocytes.

The body of the mass below the mucous membrane was composed of a delicate network of connective tissue fibers, with wide interspaces. In many places the fibers seemed forcibly ruptured from their connections, leaving ragged and frayed ends, separated by a varying distance. Scattered about in this area were a number of mucous glands of essentially normal size and appearance, surrounded by a moderate number of lymphoid cells with a few plasma cells and *Mastzellen*, in a manner similar to that which occurs in the ordinary hypertrophied mucous membrane. There were numerous thin-walled channels lined with endothelium containing red blood-corpuscles and a few polynuclear neutrophiles and lymphocytes.

These appearances denote, without doubt, a sudden escape of fluid into a circumscribed area, with the result of forcibly stretching the enveloping mucous membrane and the underlying connective tissue spaces.

The subsequent history of this patient is interesting. Three months later she came for examination, complaining of symptoms of cold in the head, of one week's duration. The nasopharynx was somewhat reddened. The mucous membrane of the septum, posteriorly, as seen in post-rhinoscopic examination, was moderately swollen, pale and translucent. The mucous membrane of the corresponding site of the left side of the septum, where the edematous mass had previously been removed, was found to be smooth and flat. The symptoms disappeared after a few days' use of a bland oily spray. The patient then remained away until twelve months later, when she returned, stating that there was an obstruction in the left nasal passage which flapped to and fro with respiration. Examination showed two large pedunculated, polyp-like growths, dependent from the infundibulum. These were removed. A few days later another smaller mass appeared in the same situation. At this time there was no evidence of acute inflammation. During the next few days no change in the mass was apparent. No bare bone could be discovered with the probe, but the question of syphilis presented itself strongly, and on inquiry it was learned that about ten months previously a general rash had appeared over the body, similar, the patient said, to measles, accompanied by a sore throat of several weeks' duration, and a general glandular enlargement, beginning in the groins. This disappeared in two or three months. Acting upon this supposition, I gave the patient mercury and iodid of potassium. Within a week the polyp began to diminish in size, and ten days later had entirely disappeared. The patient has since then been taking iodid of potassium, with the result of being in better general health than at any time during the preceding six months. It is not possible to make a positive diagnosis of syphilitic ethmoiditis, but it seems reasonable to suppose that such was the condition.

Case 2.—This patient was a healthy woman, 26 years of age, who had been suffering from intermittent blocking of the nose for several years, which had, however, not been productive of much discomfort. The present trouble consisted of symptoms of a severe cold in the head, of one week's duration, with complete blocking of the right nasal passage. There was no fever, and but slight constitutional disturbance. Examination showed the mucous membrane of the nasal passages to be moderately reddened and diffusely swollen, the septum deviated slightly to the left. In the right nasal passage, about one centimeter behind the junction of the triangular cartilage with the perpendicular plate of the ethmoid, and about a centimeter above the floor of the nose, there was a reddish, soft mass, attached to the septum, moving back and forth with forced respiration over a distance of 3 cms., and completely blocking the passage. On slight contact with the probe it bled freely. There was abundant muco-purulent discharge from both nostrils. A bland oily spray was given locally, with blennostasin internally. On the next day this mass was seen to be much smaller, and its outlines were better made out. It now appeared as a semi-translucent, elastic, pink, pedunculated, pyriform mass, looking much like an ordinary nasal polyp. This rapidly continued to shrink in size, and in two weeks from the first examination had disappeared. Its site of attachment was now seen to be a bony ridge of the ethmoid plate, over which the mucous membrane appeared slightly thicker than usual. The diagnosis was made of a sharply circumscribed edematous infiltration of the mucous membrane and submucous tissue in this portion of the septum.

The resemblance of these two cases to the edematous inflammations of the soft palate is striking. In both structures a sudden inflammation of the mucous membrane and underlying tissues makes its appearance, and is rapidly followed by the escape of serum into the underlying connective tissue. There is moderate constitutional disturbance, and evidence of the existence of an infectious process. In the two cases just described, it was interesting to note that while the inflammation of the mucous membrane was fairly extensive within the nose and the nasopharynx, the edema was restricted to a limited area of the septum. It was manifested clinically by the development of a large translucent, pedunculated mass, having a strong resemblance to a mucous polyp. The duration of the process was from two to three weeks. The histologic examination in one of the cases confirmed the clinical diagnosis of acute inflammatory edema.

Cryoscopy as a Medicolegal Test of Drowning.—When a person is drowning, more or less water penetrates into the lungs and thence into the pulmonary veins and the left heart. The blood becomes diluted and the determination of the freezing-point in the right and left heart shows this dilution. In some experiments reported by Carrara, in dogs killed by drowning, the freezing-point of the blood of the right heart averaged .42 and in the left, .29. In salt water the difference is still greater. In a soldier who had been drowned in the sea the left heart showed 1.18 and the right, 1.04. The freezing-point is identical in both halves of the heart in cadavers submerged after death. In all cases the difference becomes equalized in the course of a few hours.

ATRESIA HYMENALIS, ITS ETIOLOGY AND TREATMENT.

WITH REPORT OF A CASE OF ATRESIA HYMENALIS, HEMATOCOLPOS, HEMATOMETRA AND HEMATOSALPINX DUPLEX, EACH OF THE SIZE OF A MAN'S FIST, IN A GIRL OF FOURTEEN YEARS. PRESENTATION OF SPECIMENS.[*]

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The formerly so-called congenital atresia of the female sexual apparatus has been in later days a subject of greatest interest and discussion, and the question whether or not every atresia ought to be classified as a congenital *vitium primæ formationis,* or as acquired by some inflammatory process during early childhood, has not yet been settled as to universal agreement. The pendulum of scientific opinion has nowadays swung rapidly to the side of those authors who believe that every atresia in a *simple* genital organ is caused by an inflammatory process and may be produced: 1, through infectious diseases during childhood (variola, diphtheria, erysipelas, scarlatina, measles, dysentery, pneumonia connected with vaginitis phlegmonosa dissecans, impetigo contagiosa, etc.); 2, vulvovaginitis gonorrheica of the new born, or vulvovaginitis of other bacteriological or traumatic origin during childhood, or colpitis senilis; 3, trauma during life by external force. scalding, burning, operation, corpora aliena (pessaries), cauterization with chlorid of zinc, thermocautery, curettement after abortion or birth,[†] etc.; 4. puerperal infectious diseases; yet it must not be forgotten, as will be shown at the close of my topic, that in some cases the most accurate and strict anamnesis is not able to reveal any such diseases as above mentioned, as supposed causes of gynatresias, and that, on the other hand, there is no explanatory reason for excluding entirely congenital malformations during the embryologic development of the fetus, though we can oftentimes not furnish a reasonable explanation. Landau, for instance, cited lately two very interesting cases of the latter kind in the Berlin Medical Society,[1] where there was in one case total occlusion of the uterus by a mesonephric fibroid of the cervical portion, *id est,* a fibroid originating by hyperplasia of the Wolffian body, which case is still more interesting for the reason that it is the first one cited in literature of a mesonephric myoma originating from the cervical part of the Wolffian body.

I do not intend in my introduction to go too deeply into the details of this interesting question, but will show at the end of my paper that, as it is in many other things where we say the truth is lying in the median line, so it is here, that is, both opinions are justified and are substantiated by microscopical examination and clinical observations.

Though the recent literature of atresia hymenalis shows interesting material, yet some features observed in the following case and cited below justify its contribution.

On February 16 I was called in consultation by Dr. Barckmann to a patient who gave the following history and status:

The anamnesis revealed that H. M., 14 years of age, had had so-called black measles (hemorrhagic) at the age of 4 years, for which reason she was confined to her bed for a fortnight. She was always well until two years ago when she was stricken at intervals with sudden attacks of pain in the abdomen which were attributed by different physicians to catarrhal enteritis, colic, etc., and treated accordingly. No minute examination was ever made. Six days before consultation she experienced an attack of somewhat similar pain, at first not so severe as to attract medical interference. Two days later, however, while playing the piano, the pain increased steadily and did not cease day or night. She was confined to her bed with colicky pain, chiefly in the left iliac region, and was compelled to urinate every five minutes. When I saw the patient in consultation with Dr. Barckmann, who at first appearance had made the diagnosis atresia hymenalis and hematometra, the following status was presented:

Very well developed and healthy looking girl; pulse 94, temperature normal; upon visual examination the mons veneris was found covered with hair; the abdominal region from the symphysis ossis pubis up to one finger's breadth beneath the umbilicus was protruding with an abdominal tumor which in the umbilical region showed the upper circumference of an enlarged uterus bifundalis. From the umbilical region the line of circumference descended in a convex line on both sides to the anterior superior spine. By manual palpation the umbilical part of the tumor felt like a hard mass, the part over the symphysis and Poupart's ligaments showed fluctuation. The part of the tumor over both Poupart's ligaments showed the appearance of two sausage-shaped tumors, broadly attached to the tumor in the median line. Between the labia majora a bluish looking membrane was bulging out of the vagina like a child's head in the vaginal outlet, together with a well-marked protrusion of the posterior vaginal wall. Diagnosis: atresia hymenalis, hematocolpos, hematometra and hematosalpinx duplex.

As the state of affairs was such that rupture of the sac might be expected at any time, the patient was immediately removed to the hospital and operated upon the next morning. The pulse on the evening previous to the operation rose to 120, temperature 100, which showed that some alarming disturbance was impending.

At the operation—narcosis by Dr. Holty, with assistant Dr. Barckmann—after opening the abdomen, the omentum, in a state of imbibition by a brownish-looking bloody fluid, was found in front of the tumor masses and attached to them and the parietal peritoneum. After freeing it by gentle blunt dissection, the situation could be determined. The tumor in the median line was the distended uppor portion of the vagina, and the unfolded cervical part of the uterus, upon which was lying the fundus of the uterus like a small cap on a big head. Dark-brown, bloody fluid, oozing, as was shown later on, from the left tubal tumor, was found in the peritoneal cavity. On both sides of the median tumor two retort-shaped, dark-brown looking, tubal tumors, each of them of the size of a man's fist, were encountered imbedded in delicate adhesions and attached to the bowels and the parietal serosa. On the left side a hematovarium of the size of a hen's egg was adherent to the tubal tumor. By gently breaking up the adhesions both tumors with the hematovarium on the left side could be removed without rupturing. The abdomen was wiped out and closed, and then, by a small opening through the membrane into the introitus vagina, two and one-third quarts of bloody fluid exuded slowly from the hematocolpos and the hematometra. Ten days after the first operation a plastic operation, to keep the vagina open, was performed. Uneventful recovery. Five weeks after the operation the menstrual flow reappeared.

The first question which arises in our case is: *Does this atresia hymenalis belong to the congenital or* acquired class of gynetresias? I have already touched upon this question in my introduction, and pointed out that many authors, following the opinion of Nagel, Veit,[2] and Meyer,[3] deny absolutely the possibility of congenital atresia in cases of a simple genital apparatus, that is, without any other congenital malformation, such as vagina duplex, uterus bicornus, uterus septus, etc. This opinion, however, has been somewhat disproved by the excellent microscopical studies of C. Van Tussenbrock, in a case of atresia hymenalis[4] (compare C. Van Tussenbrock, "Histologische Differential-Diagnose zur Angeborenen und Erworbenen Hymenal-Atresie").

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[*] Read in the Section on Obstetrics and Diseases of Women, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

[†] Menge demonstrated lately a case (Centralblatt f. Gyn., 1901, p. 463) in which atresia of the cervix uteri in three places was caused by curettement.

As we know, the normal hymen consists only of vulvar epithelium, connective tissue, and vaginal epithelium without any muscular layer.

Catherine Van Tussenbrock, well known to us by her classical studies on ovarian pregnancy, found in her case a muscular layer in the hymen, together with blood vessels, and no sign of previous inflammation, and concludes that in this case there has never been a hymen, but that the membrane which caused the occulsion of the vagina consisted of the inferior part of the atretic Müller's ducts with their surrounding secondary muscle layer and the bottom of the non-perforated sinus urogenitalis, which had become vulva. Treub,[5] who was always of the opinion that Nagel's theory was not in every case in harmony with clinical observations, thinks that Van Tussenbrock's discovery is a perfect anatomical proof of the theory of congenital atresia hymenalis. Henkel,[6] however, demonstrating the microscopical preparations of the hymen in a case of atresia hymenalis in which he found muscle fibers, is of the opinion that after the occulsion of the vagina a protrusion of the posterior part of the vagina takes place with elevation of its muscle layers, and that, therefore, this condition does not speak against an inflammatory origin of atresia. This protrusion of the posterior part of the vaginal wall was so well marked in our case that one could demonstrate it clinically, and I must say that I am fully convinced of Henkel's opinion when muscle layers are found. I regret very much, however, that external circumstances did not allow a microscopical examination in the case of my patient.

In our case the anamnesis could not reveal any catarrhal inflammation of the genital tract, either during childhood or during the state of hemorrhagic measles, and it would be dangerous and premature to come to the conclusion that the hemorrhagic measles must have had some relation to the alteration in the genital sphere of the patient, though it may perhaps be possible, and the inflammation, as it happens oftentimes, did not cause demonstrative symptoms. The more one sees in surgical and general practice, the more one comes to the conclusion: Beware of making a statement *post hoc, ergo propter hoc,* unless you have absolute proof and are perfectly convinced of the proof of your statement; and many statistics are, in this respect, like a *puella publica,* as Freund once expressed himself. Consider the question from this standpoint: How many have infectious diseases during childhood—measles, scarlatina, diphtheria, etc.—and in how many of these does atresia develop later on? In cases where we find diphtheric membranes on the vulva without or with diphtheria of the tonsils (Silberstein[7] lately cites a case of this kind cured by diphtheric serum), the fact that this diphtheric process may result later in atresia is well-nigh beyond dispute. Furthermore, as it is beyond question that many children contract a gonorrheic conjunctivitis during the period of birth, so, many may contract gonorrheic vulvar vaginitis in the same manner; and this is the more true because the gaping of the vulva, the protruding of the small labia and the tenderness of the epithelium favor infection of these organs, especially during birth. The reason that we find comparatively few cases of gonorrheic vulvar vaginitis in the new born in literature is, that they are oftentimes overlooked by parents and physicians, and but little attention is paid to a slight redness and leucorrhea from the vulva. In other cases of vulvovaginitis during childhood and infectious diseases, the symptoms may be of such trifling character that they are entirely neglected and yet the inflammation may cause atresias. Neugebauer, to whom we owe many statistics of interesting cases in gynecologic literature, has, in his monograph, "Zur Lehre der Verwachsungen and Verengerungen der Scheide, etc.," Berlin, Karger's Verlag, 1895, collected 1000 cases of stenosis and atresia, of which he thinks 479 are certainly acquired, and under these, as Piering[8] cites thirty-two times—seventeen times in children—a colpitis was the underlying cause.

The question of origin of the atresia hymenalis in our case can be answered, if we consider the origin of the accompanying hematosalpinges. Veit,[9] in his paper "Ueber Haematosalpinx bei Gynatresien," makes the appearance of a hematosalpinx a phenomenon of the greatest differential diagnostic value concerning the origin of an atresia, and says that all cases, in which we find hematosalpinx connected with hematocolpos or hematometra, are undoubtedly of inflammatory origin, even if we find other *vitia primæ formationis,* such as vagina duplex, uterus bicornis, etc. Wilbert, in his dissertation, "Beitraege zur Entstehung der Hymenal-Atresie" (Inaugural Dissertation, Wuerzburg, 1898), cites a case in which the hematometra extended to the navel without a hematosalpinx. The retained menstrual blood was found germless and one was not enabled, by injecting it under the skin and the peritoneal cavity of rabbits, to produce inflammatory processes, but it was absorbed without any action. All others in which we find hematosalpinx he thinks are of inflammatory origin. Many clinical observations have proved the fact that the blood in hematosalpinx is highly infectious. More than 70 per cent. of cases in which the coexisting hematosalpinx was overlooked and the patients, therefore, simply operated upon by way of the vagina, resulted in death from peritoneal sepsis, caused by the ignorance of the performer. Fuld[10] cites that out of 56 cases operated in this manner 39 died. The tender adhesions of the tubes were broken by the sudden disappearance of the hematometra and hematocolpos, the tubes ruptured, and the infectious contents caused septic peritonitis. This danger of rupture of hematosalpinx during sudden disappearance of the hematocolpos has been pointed out sufficiently by many authors, who emphasized its importance (I will here only mention the names of Freund,[11] Rose,[12] Webster[13]). In our case the left tube was in a state of impending rupture, but, fortunately, only a little fluid had escaped into the peritoneal cavity, causing the rise of temperature and of the pulse on the evening previous to the operation. Had the operation been delayed twenty-four hours, or had rough handling by palpation caused a complete rupture of the tube, unavoidable death would have been the result. The phenomenon of hematosalpinx, therefore, in our case compels us to classify the atresia as one caused by an inflammatory process.

It is not my intention here to go further into the discussion of the question as to the origin of the blood in the tubes, whether caused by refluxion from the uterus, catarrhal inflammation, or tubal menstruation, which process is absolutely denied by Saenger,[14] or even from the hematorium. Neither will I go into the details of a differential diagnosis between extra-uterine pregnancy and hematosalpinx, which, as Veit has shown, can be differentiated by a regard for the closure of the abdominal end of the tubes in the latter. It is important to notice in our case that on the left side there was a complete atresia of the uterine end of the tube. This excludes an origin of the blood from the uterus on this side.

Concerning the treatment of hematosalpinx and atresia hymenalis, there can be but one opinion, which is, perform laparotomy first and extirpate the hematosalpinx, thereby removing the possible cause of septic peritonitis. Then open the hematocolpos and hematometra by the vaginal route.

At the close of my paper, I should like to emphasize once more the following: 1. The origin of gynetresias in a simple genital tract may be twofold: *a*, caused by an inflammatory process, which is true in the majority of cases; *b*, caused by congenital malformation, as shown by Van Tussenbrock, in a case of atresia hymenalis, which, however, can find, as above cited, another explanation, and by Landau in a case of atresia cervicalis produced by a mesonephric fibroid. 2. The practitioner must pay attention to every case of birth where he suspects a gonorrheic infection of the maternal genital tract, not only to the eyes of the new born, but also in the same manner to the vulva and vagina; and, if he finds an infection of these parts he should treat them carefully with .5 per cent. of protargol solution three times a day, as advised by Siebert,[15] or by other methods. 3. In all infectious diseases during childhood possible inflammation of the genital apparatus must be taken into consideration. 4. The physician must enforce a thorough examination in all cases of molimina menstrulia with absence of menstrual flow. 5. If he finds an atresia somewhere in the genital tract as the underlying cause, he must not cut blindly into the hematocolpos or hematometra, but must direct his method of treatment after the question: Is there hematosalpinx present or not? 6. If the latter is diagnosed, laparotomy must be performed first and then the hematometra or hematocolpos opened by the vaginal route.

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DISCUSSION.

DR. A. MCDERMID, Chicago—This specimen coming from so young a girl, is remarkable. It was a wise precaution that the Doctor gave, not to open the vagina and trust to drainage in these cases. I recollect a case that I saw more than twenty years ago, where the family physician had made a crucial incision and the girl died from general peritonitis.

DR. A. GOLDSPOHN, Chicago—I did not hear all of the paper, but only the precaution about opening from below in hematosalpinx. That is correct, but there are many cases, as I had one recently, in a girl of 17, of occlusion from a thick, dense hymen. The blood accumulates in the vagina and it is a long time before the cervix and body of the uterus becomes expanded and before the tubes are involved, so that in such instances we should certainly open from below, as I did in my case with good results. The thing that is especially important for the general practitioner to understand is the danger of bimanual examination. In this particular class we have to caution against such compressing of the parts, notwithstanding the extreme value of bimanual examinations usually. A man accustomed to pelvic examinations and surgery is usually able, by careful bimanual and rectal palpation, to diagnose the cases of vaginal retention, which can be emptied from below, from those in which the tubes are involved and operation from above is needed.

HOW SHALL WE DEAL WITH UTERINE MYOMATA?*

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Much confidence in the efficiency of different remedies has been expressed at various times.

Those, which in recent years have attained to most pronounced favor, have been the animal extracts, notably those obtained from the mammary and thyroid glands. As in electricity, doubtless much of the benefit imputed to these drugs is due to suggestion. The only extract which has seemed to me capable of producing any beneficial effect is that derived from the thyroid gland. This agent appears to exert a special influence upon the epithelium of the uterine mucous membrane, which promotes the arrest of hemorrhage and decreases pain. These effects are found in the carcinomatous as well as the myomatous uterus. Not every patient, however, is able to take the drug in sufficient doses to exert a beneficial influence upon the growth.

The efficacy of electricity, I will not discuss further than to say that I should not advise its employment in uterine myomata demanding treatment, when the condition of the patient's health would permit surgical procedures. The first aim of our surgical treatment must be to restore the afflicted individual to health with the least possible danger to life. The second to preserve, where possible, the normal functions of the pelvic organs. In many patients, the former axiom is only maintained by the most radical operation. Where the uterus is spread out by diffuse interstitial myomata, the slight hope of retaining a functionating uterus does not justify the necessary exposure to greatly increased danger. In such cases, the patient is exposed to three dangers: 1, hemorrhage into, or through, the lacerated organ; 2, loss of vitality and sloughing of the bruised and injured tissues; 3, inflammation and consequent adhesions.

When the operator is intent upon preserving the function of the pelvic organs, he will find himself able to avoid the sacrifice of many uteri which he would previously have been impelled to remove. The age and condition of the patient will always be an important factor. Married women with numerous children, or those near the climacteric much less justify any additional risk. On the contrary, young and unmarried women sould have their organs preserved whenever possible.

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The method of enucleation of myomata through an abdominal incision, of late years, has been frequently described, and is so well known that I will do no more than to emphasize some features of the procedure. The uterine incision should be vertical rather than transverse, and should be so made as not to injure the interstitial portions of the Fallopian tubes, or the large vessels supplying the uterus. The tumor surface should be exposed by a free incision, the growth seized by a double tenaculum and enucleated from its bed by a blunt dissector. Where a number of growths exist, the incision should be so placed as to permit the removal through it of as many growths as possible. After all growths have been removed, the ragged tissues should be excised and the wound carefully closed with continuous catgut sutures, so placed as to control bleeding vessels. A superficial row of sutures should be introduced so as to invest a good peritoneal surface to insure early union. Where the uterus has been extensively wounded a gauze drain should be inserted through the abdominal wall to prevent hemorrhage; for the uterine tissue is so elastic that bleeding may recur after closure of the wound.

It is generally regarded necessary to sacrifice the uterus when it is occupied by multiple myomata, but the number of growths is not of so much importance as are their size and situation. One growth may have a more marked destructive influence upon the uterus than a number of smaller growths. I enucleated twenty-five growths from a uterus which seemed very much riddled after their removal, but the patient had an uneventful convalescence and subsequently menstruated regularly.

I will not enter upon a discussion of the removal of submucous tumors through the vagina, as it is generally recognized that this avenue should be utilized whenever the growths are readily acessible through it. Where it is necessary to sacrifice the uterus the entire removal of the organ is the simplest and most expeditious procedure. After the abdominal incision the tumor and uterus are thrown over the symphysis and an incision made into the posterior vaginal fornix upon a bougie or a pair of forceps previously introduced. This part of the procedure was introduced by Eastman, who devised a grooved staff upon which the vagina could be opened. Through the vaginal incision the cervix is seized and drawn forcibly upward, while the vaginal wall is separated from it by scissors. Traction upon the cervix drags it away from the bladder, separation from which can be completed by pressure with the fingers. Frequently the uterine arteries are seen and seized before they bleed. Often they do not bleed as they are pushed back without being torn, while the small branches retract without much, if any, hemorrhage.

After separation of the bladder, the uterus remains attached by the broad ligaments. These can be temporarily secured with clamp forceps external to the appendages and the uterus and growths removed. The broad ligaments are now crushed with the angiotribe and tied in the groove thus formed with chromicized catgut. The uterine arteries are ligated with the same material. The operation as described is essentially that introduced and practiced by Doyen. Aside from its increased expedition, it affords greater security to bladder and uterus when the uterus is drawn away from these structures. I have frequently seen both ureters exposed in the wound. After securing the vessels, the vagina may be fastened upon each side to the stump of the broad ligament, which will prevent the subsequent relaxation of the vaginal canal. The peritoneal flaps are closed over the interior portion of the pelvic wound, completely excluding it from the peritoneal cavity.

In conclusion, from our knowledge of the progress of myomata, we are justified in answering the question of the title of this paper as follows:

1. Small uterine myomata, which do not give rise to symptoms are subperitoneal or interstitial, and may be permitted to go untreated, but the patient should be kept under observation and any increase in size should indicate operation, as continuous growth may result in destruction of the uterus.
2. Small growths which cause hemorrhage are submucous or interstitial, and should be removed through the vagina. They can be made accessible by tents, or by incision through either the anterior or posterior lip.
3. Multiple growths, or small growths, non-accessible by the vagina, which cause symptoms should be removed by abdominal incision. The uterus should be preserved whenever practicable.
4. When the growths are large, or render extirpation of the uterus necessary, the entire removal of the organ, as described in the text, is the simplest and most expeditious procedure.

DISCUSSION.

DR. JOSEPH EASTMAN, Indianapolis—When I recall the time, eighteen years ago, when I was an assistant in the work of Professor Parvin, I recollect his thorough efforts, in making a differential diagnosis between fibroids and ovarian tumors, leaving the fibroids alone and removing the ovarian cysts. I remember that a number of lives were allowed to pass away because they had fibroids and nothing could be done for them. This was before the perfection of our modern methods of removing fibroids. Dr. J. B. Murphy said to me, "Doctor, we no longer find those horrible fibroids which we found fifteen years ago." That is true. The evolution in the removal of fibroids has been most remarkable and gratifying. The Doctor speaks first of the menopause having something to do with whether or not we shall disturb a fibroid. I am of the opinion that a larger percentage of women suffer from some form of degenerative change in a fibroid tumor during the menopause than where there is any reparative or atrophic change which restores the woman's health. I regard the menopause as a dangerous signal, and would hesitate more in allowing a woman with a fibroid to pass through the menopause than any period prior to or after that time.

In regard to myomectomy, I recently had a case where I undertook to remove a large subserous mass and found it in an advanced stage of decomposition, and in consequence I infected the wound and the patient. Before we attempt to remove such a tumor by enucleation, it would be well to determine whether it has already begun to undergo degenerative changes. There are still a few unusual cases of fibroids where we can not adopt any particular method; the morphology of the tumor must to a certain extent govern the method of removal. Although I have had considerable experience in the use of different methods for the removal of fibroids, I have as yet never come to the point where I could lay aside the old rule. It is only the few, and not the many, who are capable of doing aseptic surgery. Dr. Montgomery's paper covers the field very thoroughly and leaves little to discuss.

DR. SETH C. GORDON, Portland, Me.—I am known as a radical on fibroids. When a woman, advanced in life, comes to me with a fibroid or with symptoms which I find are due to a fibroid of the uterus, I believe the only safe, judicious, conservative thing to do is a hysterectomy. No man can say, when he removes a comparatively large fibroid, that there are no more fibroids present which he can not discover. Comparatively few women with fibroids conceive; quite a good many abort before the period of gestation is finished. If we remove a uterus containing fibroids we have certainly conserved that woman's health. The mortality in hysterectomy is almost nil.

Conservatism, *in my opinion, means the conservation of the* woman's health. She comes to us not to be relieved of some temporary troubles, but to be cured. I have been in the harness a good many years, and I have done much of this work, and the cases where I have the most trouble are those that have been conserved by these gentlemen who call themselves conservatives. They usually let the woman go on; she is not suffering very badly, not losing much blood; she can bear the pain, and all that sort of thing. I do not believe in that kind of conservatism.

Two years ago I read a paper before the American Gynecological Society, entitled "Conservative Gynecology." I reviewed the history of myomectomy, and no candid man who reviews the cases reported in that paper, can say that conservatism removes myomatous tumors, especially in women beyond the child-bearing period, or who have passed the menopause, or women who could not conceive. You may say that the tumor is not doing much harm. The tendency of fibroids is to grow, to produce further symptoms, and the time when you can do the best operation with the least danger to your patient, with the lowest mortality, is when the tumor is small, when there are no complications, no degeneration, pus tubes, ovarian adhesions and complications arising from peritonitis. When women are suffering, true conservatism is to do a hysterectomy. I shall believe that as long as I practice surgery. We have been in the era of electricity, ergot, and all that kind of treatment, altogether too long. We have seen too many women die; too many go on to the point where an operation was necessarily attended with a large mortality. Doing a myomectomy under those conditions, with almost a certainty of having to open the abdomen again, is not true conservatism. The woman is the one to be considered in this matter; and when she understands the case fully, I believe the majority of them will not want to take the chance of a second operation. I am not terrified in the least by being called a radical; I rather glory in radicalism when such conditions confront us.

Dr. William H. Wathen, Louisville, Ky.—I do not agree with Dr. Gordon's statement that every fibroid tumor should be removed. They should be removed when they cause inconvenience to the patient, such as would be greater than the danger of an operation. I do not believe in the operation of removal of the ovaries, or any operation, except the radical operation. I have found it to be best to remove the cervix. We know that cancer has developed in a number of cases after leaving the cervix. The operation of hysterectomy for small myomata should be done per vaginam; the results are better, and the patients convalesce more rapidly. When the tumor is too large, or when the vagina is very small, then remove the tumor by the suprapubic or combined method. There is no capital operation that has more simplicity than the operation of removing a fibroid when there are no complications.

The method I pursue is to apply two long clamps on each side, one close to the pelvic wall and one close to the uterus; cut down quickly between them, and then apply, as a rule, two others; then take the uterus away. I occasionally apply a clamp on the round ligament. I do this in preference to ligating, because you can ligate arteries much better when you have the tumor removed. You can reach them easily and can ligate them separately or *en masse*. The tumor is removed very speedily, sometimes within less than ten minutes, and you can ligate the arteries in half the time required before the tumors were removed. In cases where the tumor is too large to be removed from below and is wedged in the pelvis, so that it can not be elevated more than half an inch, having involved the broad ligament, you must treat each case individually and distinct from every other. In cases where there are no contraindications, I separate the vagina from its attachment to the uterus; dissect off the bladder as far as I can; open Douglas' pouch, and apply clamps to the broad ligaments to control the uterine arteries. Then I cut the uterus from its attachments for an inch and a half; then I clamp the ovarian arteries from above and remove the tumor by such methods as may best suit the case. In some cases, where you can not do otherwise, speedily bisect the uterus and then enucleate from below, beginning on the side that can be most easily enucleated. Clamps must be applied to any large bleeding points. Sometimes we can take these tumors away with but little hemorrhage.

Dr. A. Palmer Dudley, New York City—The title of this paper is a very broad one, but I look at this matter from a strictly scientific standpoint and not from the standpoint of the possibility that the woman may need a second operation. If this study does not advance it must recede, and if we keep along the line of the belief that the uterus and its appendages must be sacrificed because of the presence of a fibroid tumor, we are at a standstill. We have finished the work and can do no better. We must decide whether to go forward or turn back. Who would think of turning back in art or architecture, or in science, and why should we, as artists in surgery, stop with hysterectomy because a fibroid is giving a woman trouble? I am governed in my work solely by my ability and skill as a surgeon. If I have a case where I can do a myomectomy and return healthy appendages with a repaired uterus, I am bound to do it. When I find that that can not be done with a reasonable amount of certainty, hysterectomy must be resorted to.

Ten years ago the question of chloroform in labor was fought out in this Association. Why can not we now do this work as described by Dr. Montgomery, relieving the woman providing she has healthy appendages that will do the work, and providing we can do it without scarring the uterus to such an extent that it will be a menace in the future. The uterine muscular structure heals like any other tissue, therefore we can safely do a myomectomy, without regard to any operation that must be done in the future.

Dr. G. B. Massey, Philadelphia—This question has often been the subject for discussion before this Section and it is always an interesting one. Some of us come here to learn, and many of us are frequently confronted with the question what to do when a case of this kind comes to us. I believe that the obscurity that still rests upon it, is due largely to exaggerated statements made in medical bodies. I want to know whether the small fibroids are less dangerous to remove than the larger ones. I am not a surgeon, but I am an observer, and my personal impression is that the size of the growth does not necessarily make the operation more dangerous. Then what happens after a successful removal?

Those who use electricity in the treatment of these cases are also confronted with problems. In the first place we should not promise any results in less than six months. That is a very serious objection, one, however, which has been largely met by the growth of the skill of the physician in using electricity. Much can be said on this subject, but these are only a few questions that have presented themselves to me while listening to this discussion.

Dr. Montgomery, closing the discussion—I am gratified with the interest displayed in my paper. Dr. Eastman misunderstood me in regard to operating near the menopause. I attempted to emphasize the fact that in women near the menopause, married women who have had a number of children, it is less necessary to save the uterus than in women of a younger age. I fully agree with him as to the removal of the uterus at this time when it is the seat of fibroids which give rise to marked symptoms. The change which the growths undergo are such as to render it desirable that a radical operation be done. I agree with him also as to the importance of recognizing the condition of the tumor prior to a consideration of enucleation; that the danger to the patient is increased when the tumor has undergone necrotic change.

I can not agree with Dr. Gordon as to the necessity or wisdom of performing a hysterectomy in every case of fibroid tumor. On the contrary, many cases in which hemorrhage is a marked symptom may be treated by the enucleation of the tumor through the vagina and the retention of the uterus. I fully agree with Dr. Dudley that we should endeavor to cure our patients by the restoration of function rather than by the sacrifice of important organs. I do not feel that when a patient has sacrificed her ovaries and uterus, that we can consider her case one of cure. We are simply saving her from a serious disease; we are throwing her into a condition less unfortunate and less likely to produce serious disturbances of her health or which produces symptoms of less unpleasant character, which may be avoided by the mere enucleation of the tumor. Where a uterus can be saved in a woman under 40 years old we should invariably do so. With regard to the operation mentioned by Dr. Wathen, I think if he follows the method suggested by me in first making his incision into the vagina from the abdominal cavity, cutting around the cervix, pulling it away from the bladder and ureters, clamping the broad ligaments and uterine arteries if they bleed, he will never repeat the procedure he has described to us to-day. I can not conceive of any reason why a woman with a small growth of a healthy character should be subjected to so much danger as is the woman with a large fibroid growth. The larger the growth, the more serious is the operation; and the more serious the operation, the greater is the danger.

Clinical Report.

CASE OF FATAL HEMORRHAGE FROM A VARIX OF THE PAMPINIFORM PLEXUS.

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J. A., V-para, aged 40, seven months pregnant, was first seen by the writer on June 5, 1901, in consultation with Dr. C. T. Sweeney at the Montana Deaconess Hospital. Her history showed that on May 28 and 29 last she had driven into Great Falls from her ranch fifty miles distant, sleeping the intervening night in her wagon on the road. On the 30th and 31st she had worked very hard re-papering a house occupied by her husband, who worked in the city as a plasterer, while June 1 was spent in purchasing supplies to take back to the ranch, which necessitated nearly the whole day's walking about or standing in stores. About midnight on the latter date she was awakened by a series of griping pains in the lower abdomen, and called Dr. Sweeney, who reports that the pains, while severe, were unattended by any symptoms of shock, her pulse at this time being between 90 and 100, full and strong; the os was slightly dilated. A hypodermic injection of morphia secured relief.

On the morning of June 2 pain was still absent, but the patient complained of an uncomfortable feeling of fulness in the abdomen, and the intestines being considerably distended a mild purgative was ordered, to be followed by an enema later. Pulse at this time was 104, temperature normal. June 3, there was no pain, the os was still slightly dilated; bowels had not moved and were much distended; temperature normal, pulse 116. The patient was transferred to the Montana Deaconess Hospital, where epsom salts was administered and enemata given during the day, but no stool was secured by the morning of June 4, although gas passed; the abdomen was becoming more and more distended and vomiting developed; temperature was slightly elevated (100 F.), pulse 120.

When I first saw her, June 5, the abdomen was greatly distended and tympanitic, particularly over the transverse and descending colon, which was plainly outlined upon the surface; a pregnant uterus reaching to the umbilicus could be felt; the bowels had not moved and she had vomited every few minutes all night, the vomited matter having a stercoraceous odor at times. Her pulse at this time was 135 and very weak, temperature normal, thoracic organs healthy, liver and spleen normal. She complained of severe pain in the abdomen; the features were dark, drawn and anxious; her teeth and lips were covered with sordes, and tongue dry and brown. Vaginal examination showed the os to be rather larger than a twenty-five cent. piece. Examination of recto-uterine space was negative. Immediate preparation was made to open the abdomen, and on going on the table the patient was almost in extremis, pulse 145 and very feeble; ether was the anesthetic employed. As soon as the peritoneal cavity was opened, large quantities of dark fluid blood gushed out. The hand encountered many large clots, both in the pelvis and among the intestines. The fingers were rapidly carried down both sides of the left broad ligament, which was found perfectly intact; then to the right side which was found to be occupied by a clot about the size of a small orange slightly infiltrating the cellular tissue between its blades, and communicating by an opening into which the fingers readily passed with the free fluid blood in the pelvis. Ligatures were rapidly applied to both extremities of the broad ligament well down into the pelvis, when all hemorrhage being controlled, the clots were removed, the peritoneum flushed out with hot saline solution and rapidly closed, the entire operation consuming about twenty minutes. The patient was quickly returned to bed, where rectal and subcutaneous injections of hot saline solution with hypodermics of stimulants failed to revive her, and she died in an hour.

An autopsy made one hour after death failed to show any cause for the symptoms of intestinal obstruction except the presence of the blood in the peritoneal cavity, where it did not act mechanically but produced an intestinal paralysis through the shock inflicted on it by its presence which acted as a foreign body. The broad ligament was so disorganized by the hemorrhage and by the ligatures applied to it that the ruptured vessel could not be identified; both tube and ovary, however, were perfectly normal.

Peculiar interest attaches to this case, for several reasons. The insidious character of the symptoms presented contrasted sharply with those usually attendant upon a ruptured tubal or ovarian gestation sac. Even the initial pain, in its comparative mildness and absolute freedom from shock, was but little suggestive of this accident, even though an advanced intra-uterine pregnancy had not deprived it of such significance. The failure of all attempts to secure a stool, together with the vomiting, tympanitic distention of the abdomen, slowly rising pulse, and normal or slightly elevated temperature, so strongly obtruded the obstructive features of the case that hemorrhage in the rôle of causative agent was not suspected.

The chief interest, however, centers about the pathologic condition revealed by the operation and confirmed by the autopsy. Here was a patient with a severe, even fatal, hemorrhage from the vessels of a broad ligament, in whom the possibility of extra-uterine pregnancy could be absolutely excluded. Not only was an intra-uterine pregnancy of seven months certainly present, as proved by the autopsy, but careful examination of the tube and ovary demonstrated that they were absolutely normal, and the conclusion was reached in the absence of other causes, that in this case the hemorrhage was from a ruptured varix of the pampiniform plexus, although the particular vessel affected could not be identified amid the crushed and tattered remnants of the broad ligament presented at the autopsy. Yet careful miscoscopic examination of the large, tortuous, irregular veins of the uterus and opposite broad ligament after death confirmed the impression obtained at the operation, that in the ordinary state of distention common to these vessels before rupture they were decidedly varicose.

It has been my fortune to see within the last two or three years a case of fatal hematocele occurring in a virgin where, although unconfirmed by autopsy, the inference was strong that the hemorrhage proceeded from a ruptured varicose vessel in the broad ligament; Doleris has described a number of similar cases. This occurrence of two cases of pelvic hemorrhage due to this cause within a comparatively short period in my own practice, together with the very considerable number of cases scattered through the literature, where pelvic hematocele, occurring outside the child-bearing period, could not be satisfactorily explained except upon the hypothesis of rupture of a varicose vein within the broad ligament, leads me to believe that a constant relation exists between uterine vascular disease and pelvic hematocele. I can not agree with reporters who describe cases not dependent upon obstetric traumatisms, and especially ectopic gestation, as the rarest accidents. They are of sufficiently frequent occurrence, I feel assured, to warrant much more careful consideration being accorded to them than they now receive, and to warn against the conclusion too generally accepted that the possibility to exclude ectopic pregnancy excludes also broad ligament hemorrhage.

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THE PATHOGENESIS OF PARESIS.

The pathogenesis of paretic dementia is generally held to be primarily in the nervous system, though certain toxic agencies, notably syphilis, are commonly admitted to have prepared the way. Since its apparent close relations with tabes have been brought to notice, a similar pathologic condition has been considered by many to be alike the basis of both disorders; as held by Mott, for example, paresis starts as a primary degeneration of the cortical association neurons, while in tabes the exogenous sensory spinal neurons are first affected. According to his view, both are essentially the same disease, the difference being in the portions of the nervous system involved. While the question of the primary parenchymatous or interstitial nature of the earliest lesions in paresis is still discussed and while there are not lacking able advocates of the vascular origin of the disease, there is at least the merit of novelty in the theory recently advocated by Dr. Ford Robertson,[1] pathologist to the Scottish Asylums.

According to his view, paretic dementia is a toxemia of gastro-intestinal origin, due to excessive growth of the bacteria which normally inhabit the alimentary tract, notably those of the colon group. The toxins thus generated specially affect the nutrition of the vessels of the central nervous system, and particularly those of the more vascular regions, because of their better blood supply. He admits the probable action of syphilis in preparing the way, but holds that it is essentially that of altering the natural immunity, and that there is some evidence that this is dependent upon commencing exhaustion of the leucoblastic function of the bone marrow. The toxemia is probably in some measure, he says, established for months or even years before the outbreak of the nervous disorder. In some individuals the cerebral cells are first to give way and paresis is the result; in others, the spinal and we then have tabes—the original process and cause are the same in both. Hence, as a deduction from these views, he believes that the treatment of paresis and tabes should be directed primarily to the correction of the morbid conditions in the alimentary tract and that the arrest of the disease by such means is practicable.

In the same issue of the *British Medical Journal*, there also appears a paper of Dr. Lewis C. Bruce, of the Perth District Asylum, evidently written in concert with that of Dr. Ford Robertson, and advocating the same general views. Bruce, however, has experimented with serum-therapy and tested the agglutination reactions of the bacillus coli with paretic serum and believes that he finds not only evidence in support of the gastro-intestinal toxemic nature of the disease, but also valuable therapeutic indications. He has used the serum from patients in the remission of paresis by inoculating with it others in the progressive stages, and he thinks that the results are to some extent significant and promising. As a therapeutic suggestion, his ideas are worth testing in a disorder like paresis, where nothing so far seems to be positively curative, but the theory of the disease here offered will require very ample demonstration before it can even be seriously thought of as a possible pathology.

Robertson admits that there are many unanswerable objections to portions of his theory, and others, not its advocates, will doubtless find arguments against it as a whole. The papers of Bruce and Robertson nevertheless call attention to certain aspects of the disorder and are, in this way, and on account of the exceptional nature of the views expressed, rather notable contributions to its literature.

THE ART OF ENDOWING MEDICAL COLLEGES.

It is a matter for congratulation that philanthropists are turning their attention to medical schools. They are beginning to recognize the fact long since familiar to those conversant with the needs of such institutions that medical education as conducted at the present time is not self-supporting. The necessary equipment of a modern medical school represents an investment of considerable magnitude, whether we consider the wealth of clinical material needed for the practical training of the student—material that should be in the main supplied by the hospitals under the immediate control of the college authorities, or whether we consider the various laboratories for the practical demonstration of the fundamental sciences.

Again, the teaching force is fourfold greater than that needed in the recent past. It follows that the salary lists of these institutions are correspondingly increased. Not only so, but whereas in the past the professors occupying certain scientific chairs in the medical schools were at one and the same time in general medical practice, it is now deemed necessary for them to devote their entire time and attention to the duties of their chairs or departments. In short, there is no other form of professional training either so exacting or so costly as that pertaining to the education of the physician of to-day. Though the precise situation from a monetary view-point is fully appreciated at present by those in control of the affairs of our medical schools, as well as by those in teaching capacities, the popular notion relative to the question is still far astray.

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[1] British Medical Journal, June 29.

The claims of medical schools upon private philanthropy have recently called forth laudable and generous responses from Mr. Rockefeller, who endowed the Rockefeller Institute for medical research, and Mr. J. Pierpont Morgan, whose gift of over one million dollars to Harvard University was publicly acknowledged on the occasion of the commencement exercises recently held of the medical department of that well-known university. We may confidently assume that these handsome gifts will prove to be the forerunner of even greater munificence on the part of others. Indeed, donations and endowments in connection with medical colleges will doubtless grow more conspicuous as the urgent needs of higher medical education are more generally appreciated by those possessing great wealth. Since it is practically certain that generosity toward medical colleges is sure to grow, those who are in a position to fully present their claims to the generously disposed need to remember that there is an art in giving. Such efforts, however commendable at first sight, can not accomplish good results unless much study and investigation is given to the question of how and when to apply donations and endowments. There is danger that unless forewarned, rich men may injure the cause of medical education or retard its progress as a result of misdirected generosity. It is also perfectly possible for men of wealth to be induced to furnish the funds that would enable an undeserving institution to swell enormously its matriculation list. Generosity must be tempered by critical judgment and the gratitude of the profession with wise counsel as to the best means of applying pecuniary gifts.

Whilst giving is praiseworthy, the art of giving is not unworthy of the most careful and thoughtful consideration of wealthy philanthropists, as well as those who control the administrative affairs of medical colleges and who are morally bound to develop them to the utmost usefulness.

RECENT ITALIAN INVESTIGATIONS ON MALARIA.

The various phases in the investigation of malaria, which has yielded such remarkable results, have been followed quite closely in the editorial columns of The Journal.[1] In the third annual report of the Italian Society for the Study of Malaria, Professor Celli[2] briefly reviews the work of the society for the past year. A number of small stations were established for the special study of the disease from an epidemiologic standpoint.

The work of these stations shows that where malaria prevails the anopheles genus of mosquito also occurs, but not vice versa. All stagnating water in marshy regions may be foci for the larvæ of anopheles; mixed salt and fresh waters are exceptions to this rule. The larvæ die in the water used for maceration of flax, whereas rice fields covered with stagnating or running water always harbor the larvæ of the malaria-carrying mosquito. The parasite of the grave tertiary form is the most widely distributed; that of the quartan form is less prevalent; while that of the mild tertian form is more widely distributed in the northern than in the southern part of Italy. By means of the mosquito theory the epidemiology of malaria in Italy has been well established through the efforts of this society.

Among the more important studies in the pathology and therapy of malaria may be mentioned those of Lomonaco and Panichi on the agglutinating powers of malarial blood, through which it is hoped to attain a rapid and sure means of diagnosis of latent malaria. Numerous experiments have been made on sufficiently large scale to demonstrate conclusively that persons working in malarial regions may be fully protected from malaria by mechanical protection against the stings of mosquitoes. This is confirmed by the English physicians Sambon and Low, who lived during the malarial season in a specially constructed house guarded against the entrance of mosquitoes. It may be recalled, too, that Manson produced malaria experimentally in London by means of infected mosquitoes sent there from Rome. Enactments have been secured whereby reliable quinin is kept for sale at a low price in all parts of Italy. Efforts are now being made to render specific treatment with quinin obligatory, in order to prevent death from pernicious malaria. Popular writings on malaria are to be spread among the inhabitants of malarial regions, and the physicians therein provided with scientific publications.

The economic gain for Italy through this united warfare against its terrible malaria can not be estimated, and the work of this society forms a good example for imitation in other lands. The value of euquinin as a prophylactic is well shown by the work by Di Mattei and others, and Mori[3] states that of 42 persons in a malarial region, subjected to prophylactic treatment with euquinin in doses of one-half gram per day, only 5, that is, 11.90 per cent., became infected, while of 47 non-immunized persons 39, that is, 82.97 per cent., fell victims to the infection. Celli regards this substance the best means now at hand for producing artificial immunity against malaria.

THE TEACHING OF CHEMICAL PATHOLOGY.

The increasing and now quite widely recognized importance of chemistry and physics in physiological and pathological processes is leading gradually to a remodeling of the methods of teaching pathology and physiology, with the view to giving the attention demanded by chemistry in its relations to these sciences. Within a year or so a few of our medical institutions have established distinct courses, of different kinds, in pathological chemistry. Professor Taylor, of the University of California, gives the details of the course planned for the medical students of that school.[1] A full and valuable description is given of the equipment of the laboratory organized for this purpose and intended for fifty students. The underlying principle which led to the installment of this course is the necessity for the student to learn that disturbed function is co-equal with altered structure, and hence an effort is made to study morbid physiology and morbid anatomy at the same time. In chemical pathology each student does practical work, as far as possible. Wherever material is insufficient general demonstrations are made.

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[1] August 12, 1899; May 26, 1900; June 9, 1900; Feb. 16, 1901.

[2] Centralbl. f. Bakt., 1901, xxix, 770-772.

[3] Ibid., 786-791.

The general course includes work on the saliva, the gastric fluids, the feces, the urine, transudates and exudates, the bones, various organs, tumors, toxins, antitoxins and ferments. When the class has done a certain amount of work along general lines, subjects for original work are given each student for more detailed study, and an interesting list of topics follows. The field is so large that it is not possible to cover all parts, which is not so essential as that the student should work out largely by himself some of the conditions of disease from both chemical and morphological viewpoints. The course here indicated occupies three afternoon sessions per week throughout the academic year.

We believe that this is an important step in the right direction. Eventually the courses of this kind may be made to include the study of the influence of chemical and physical agents upon living matter as well as the study of the chemical composition of various kinds of dead matter. Perhaps an important question in the minds of some men, especially the deans of medical departments, will be, where is the time for this new course to come from? The curriculum is crowded already and students are being pushed too hard. The solution of this difficulty probably lies in the fact that as the chemical and physical aspects of pathology are emphasized, the morphologic side, so prominent at present, will become less important and require less time for adequate presentation.

THE USE OF SUGAR.

The present tendency of physiologists and authorities on dietetics to encourage the use of sugar as an aliment, has not failed to excite some controversy and adverse opinion. A recent article by Von Bunge is in point.[2] This author, starting from the common observation that children who eat sugar appear anemic and have bad teeth, reasons that as sugar contains neither iron nor lime, its free consumption, by supplanting other aliments containing these essentials, is damaging and should be discouraged. He would advise therefore an increased tax on sugar. In noticing the views of Bunge, Professor Lépine, of Lyons, takes exactly the opposite view. He shows from Bunge's tables how little lime and iron is taken in our food, and hence the improbability of enough sugar being ingested to make up any appreciable difference. With the French, owing to the high price, sugar is used chiefly as a condiment and only about one-third as much per individual as in England. It would not appear that the English or Americans suffer especially from their excessive use of sugar, unless we can attribute their frequent need of dentists to this cause. It is probable, however, that they really are not very much worse off in this regard than other civilized people, and in other respects they certainly are not suffering physically from excess of sugar ingestion. Professor Lépine, as a hygienist, would prefer to see the consumption of this aliment tripled or quadrupled amongst his countrymen and has no fear that it will ever damagingly displace other essential food substances.

A FRENCH MEDICAL ASSOCIATION OF AMERICA.

The proposition made at Montreal this summer to found a French-speaking medical association for this continent does not apparently receive the endorsement of the English-speaking physicians of Canada. The *Canadian Journal of Medicine and Surgery* deprecates the movement and believes that it would be in no way representative of Canadian medicine; that it would be more patriotic and sensible to form a bilingual Canadian body, in which both languages could be used, and thus sink minor differences in behalf of their common country. Of course, such a body as that proposed at Montreal would be maintainly French-Canadian, the French element in the United States being usually rapidly absorbed in the English-speaking general population. It is a misfortune for Canada that political and religious reasons have there preserved racial types and speech, but with existing conditions it is not unnatural that the French-speaking members of our profession, predominating as they do in a large portion of the Dominion, should propose a cleavage on linguistic lines, and it will be of interest to observe how far the patriotic plea for a united bilingual Canadian association will be effective. The editor says: "Medical science is not limited by geographical or political boundaries," and his closing suggestion that, if French-Canadian physicians "place language on a higher level than patriotism" his English-speaking compatriots in the profession might seek association with their American confrères, seems worthy of consideration.

ABENTERIC TYPHOID FEVER

As an argument against the employment of the term enteric fever to designate the specific morbid process dependent upon the activity of the typhoid bacillus, it has properly been pointed out that the lesions are by no means confined to the intestinal tract, which may, and, in fact, occasionally does, escape involvement entirely. Accordingly, the derivatives, splenotyphoid, pneumotyphoid, pleurotyphoid, have already found their way into the literature as descriptive of special localizations of the morbid process. To these there has recently been added the designation arthrotyphoid, to describe the condition present in a case of typhoid fever reported by

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[1] Phil. Med. Jour., June 22, 1901.

[2] Der Wachsende Zuckerkonsum und seine Gefahren. Ztschr. f. Biol., 1901, xli, 2 s. 155 (referred to by Lépine).

Barjon and Lesieur[1] in which there was articular involvement. The patient was a boy, 17 years old, who had had an attack of typhoid fever at the age of 8 years, and one of acute rheumatism at the age of 11 years; and now, again presented symptoms of the former disease. The spleen was not enlarged, and at first intestinal symptoms were wanting. There was, however, marked arthritis, which had begun in the feet and had extended thence to the hands. There was much delirium, and toward the close diarrhea became profuse. Typhoid bacilli were cultivated from the blood, and the Gruber-Widal reaction was obtained on several occasions. On post-mortem examination no ulceration of the bowel was found. The free borders of the aortic and mitral cusps exhibited hard granulations, pink in color. It is thought that the intestine and the spleen were immune in this case, in consequence of the previous attack of typhoid fever, and that the joints were involved as a result of the injury they had sustained in the earlier attack of rheumatism.

ADRENAL EXTRACT FOR HEMOPHILIA.

In the present state of knowledge, it is difficult to say to what extent the hemorrhage, spontaneous or otherwise, that occurs in connection with the so-called diseases of the blood, is due to deficient coagulability, and to what extent to changes in the blood-vessels. It would seem, however, that the blood-degeneration occurs first and the vascular disease as a secondary condition. Recent observation has shown that preparations of adrenal gland constitute a most efficient hemostatic, and their activity in this direction has been thought to be due principally to their vasoconstrictor influence. That, over and above this, adrenal gland has also some effect in increasing the coagulability of the blood, would seem to be indicated by its successful employment in the treatment of obstinate epistaxis in a case of hemophilia, as reported by Dr. D. McKenzie.[2] A boy, 13 years old, had bleeding from the nose of ten days' duration, for which no cause could be demonstrated. Insufflation of tannic acid, internal administration of calcium chlorid, and plugging of the nares were all tried, but the appearance of a purulent discharge, as well as the discomfort from the presence of the lint used for the last-named purpose, led to the application of a solution or suspension of adrenal extract, with the result that the hemorrhage was controlled. On inquiry, it was learned that the father of the patient had in youth bled constantly and freely from the nose, and still bled freely after cuts or the extraction of teeth; while the maternal grandfather of the parent had been subject to severe nose-bleed. The patient himself had, at the age of 6 years, an attack of epistaxis lasting ten weeks, and shortly afterward, on being operated on for adenoids, continued to bleed for several days. At the age of 9 years, profuse epistaxis occurred, lasting for three days. Besides, slight cuts were always attended with loss of blood out of all proportion to the character of the wound. Free bleeding from the gums followed the removal of loose milk teeth at different times, and bruises were readily induced. Whether the case reported be really one of hemophilia or not it illustrates the efficacy of adrenal gland as a hemostatic, and it certainly justifies the employment of the agent in the treatment of a disorder that has hitherto resisted all other therapeutic measures.

CAN ACQUIRED IMMUNITY BE TRANSMITTED BY HEREDITY?

There is perhaps no more interesting and no more difficult problem in biology than the question as to the transmissibility of acquired characters. It seems not impossible that a compromise answer will afford—here as elsewhere—the true solution, to the effect, namely, that such characters as are purely local are not transmissible by heredity, while those that represent a permanent change in the organism as a whole may be so transmitted, providing, of course, they have developed prior to conception. Thus, the loss of a member or the development of a neoplasm would not be capable of hereditary transmission, nor would disease as such, because of its temporary quality. It may be stated as a general proposition that disease as such is not hereditary, that which may be transmitted by heredity being a certain predisposition or susceptibility on the part of the cells of the organism. Disease in the fetus is acquired directly from the mother, just as occurs in post-uterine existence. An apparent exception is found in the case of syphilis, but even here it is not beyond the range of possibility that the mother had been first infected and through her the fetus. The problem of disease heredity revolves about the question whether the sperm-cell or the ovum may be the seat of disease, and of this convincing evidence is wanting. On the other hand, it can be conceived that immunity is at times transmitted by heredity. Although the mechanism of immunity is not fully understood, it would seem to depend on certain activities residing within the cells of the body, either as an inherent property or as a result of antecedent infection; or within the body fluids. We may accordingly designate the former, which is fixed and obviously can not be conveyed from one animal to another, cellular or biologic, or active; and the latter, which is but transitory and is susceptible of conveyance from one animal to another, chemic or passive. Both of these forms of immunity may be conveyed from parent to offspring, though only the former can strictly be considered as hereditary, while in the case of the latter the transmission is entirely comparable with that which may be effected between one animal and another. Thus immunity may be conferred upon the fetus *in utero* by the blood of a mother passing through an attack of one of the infectious diseases, or on the nursing infant by the milk of such a mother, in the same way as like immunity may be conferred by treatment with antitoxin. The influence of heredity is here out of the question and the immunity is but transitory.

THE TENDENCY TO URBAN CONCENTRATION.

The preliminary census report of the United Kingdom, recently issued, presents some suggestive statistics. Thus, as given in the *British Medical Journal,* the figures for the total population of England and Wales are 32,526,075. The tendency to urban concentration is shown by the fact that over two-thirds of this population was enumerated in 1122 urban districts, and almost exactly two-thirds, or 21,946,346, in 435 towns of over 10,000 population. Evidently, rural England is badly in the minority. The disproportion must be still further increasing if we are to judge by the percentage of increase in the larger towns, while the smaller show an absolute decrease. Thus, in 472 towns of from 3000 to 10,000 population the decrease during the decade 1891-1901 was 3.51 per cent., and in 215 towns of less than 3000 population it was 12.93 per cent. The sociologic aspects of this concentration of population in cities are perhaps more serious than the medical ones, but the latter are serious enough. It is hardly probable that with all the better facilities for sanitation, etc., that a purely urban population can still avoid breeding physical degeneracy. The man with the hoe, in spite of the sentimental pseudo-philanthropy his hard lot has incited, lives under better conditions for physical development than his brother of the sweatshops and crowded slum. The best blood of the city is recruited from the country, but in England this is evidently a diminishing source and the outcome will be worth watching. Other points that are noticeable in the figures as given are the steadily increasing excess of females over males, at present nearly 7 per cent.; the decrease in the birth-rate and in the average number of persons to a family; and also the decline in the death-rate, showing that at least sanitation is holding its own, and that extraordinary causes of mortality are in check. Our own census shows that one-third of the population of our country lives in towns of 4000 population or more, so we have the same tendencies to meet in a hardly less degree. It may be that our civilization is in a transition period and is adapting itself to new conditions successfully. A hundred, or even fifty years ago, the city growth of the present day would have been attended with evils which we can now hardly imagine and which have been done away with in the progress of medical science and sanitation. We seem to be setting aside the laws of natural selection, by which, at the expense, it is true, of an infinite amount of human suffering, mankind in the past has been constantly rising from lower to higher planes and what the result will be is a question for the future. There are no reliable prophets in these times, but it is safe to say that the colossal human aggregations of the present will insure new problems and work for our profession.

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[1] Journ. de Phys. et de Path. Gen., March; British Med. Jour. Epitome, May 11, 1901, p. 73.

[2] Brit. Med. Jour., April 27, 1901, 1901, p. 1009.

EDDYITES VERSUS VETERINARIANS.

The "christian scientists" are congratulating themselves that they have at last cured a horse suffering with the influenza, and the result is being telegraphed all over the land for the glory of Mother Eddy and her cult. If "christian science" would only go into the veterinary business exclusively there would be little to say against it, for human health and life would not be affected. This would also be the easiest way of settling its merits, as it would there run up against the financial interests, which are always more sensitive to what affects them than are those where credulity comes in play as an active factor. We shall, therefore, be glad to hear of this practice in that line, and hope it will widen out and try itself on glanders, farcy and other little things less certain to get well of themselves than pinkeye or horse influenza.

NEW DEVELOPMENT OF PLAGUE IN SAN FRANCISCO.

Our news columns contain a report of the new outbreak of plague in San Francisco. While this announcement will be received with regret, there need be no fear of the spread of the disease, at least not to an alarming extent, for the conditions now are different from what they were during the past winter. The Chinese part of the city has been thoroughly renovated, and this of itself will remove one cause of the spreading of the disease. The officials representing the Marine-Hospital Service, the State Board of Health, and the San Francisco Board of Health, are working in harmony and the ostrich method of the past has given way to open recognition of the existence of the disease. It is to be hoped that this united action may continue. It is to be hoped also that the authorities will recognize the possibility, if not the probability, of fresh outbreaks occurring in the future, as has been the experience in other plague centers. There must be no relaxation in the vigilance that has been shown for some time, but rather this new development should increase the watchfulness.

DIABETES MELLITUS SIMULATING GASTRO-INTESTINAL DISEASE.

We have scarcely advanced in our knowledge of the nature of diabetes mellitus beyond a recognition of the fact that the disorder represents a derangement of carbohydrate metabolism which may be of multiple or of complex origin. It appears that in health there exists a mechanism through the operation of which the entrance into the blood and thence into the urine of the products of carbohydrate metabolism is prevented, while under certain other conditions this barrier is broken down, with the development of glycosuria or diabetes of varying degrees of persistence and severity. While diabetes is characterized by a more or less definite train of symptoms, the clinical picture is by no means always distinctive, so that the value and the importance of systematic examination of the urine can not be overestimated. In a recent communication, Dr. Emil Schütz[1] calls attention to a group of cases of diabetes mellitus in which the dominant symptoms were gastrointestinal, and he reports illustrative instances attended with gastric crises, with gastralgia, with intestinal colic and with general dyspeptic symptoms. These manifestations may occur in association or alternation with neuralgia and paresthesia in various parts of the body. The immediate cause of such digestive derangement is to be looked for principally in disease of the nervous system. In the cases in which gastralgia and colic are most conspicuous, disease of the pancreas may be the underlying condition. The course of the symptoms mentioned will be favorably influenced by an antidiabetic regimen. In all cases of chronic digestive derangement of unrecognized cause repeated examinations of the urine should be made.

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[1] Wiener Med. Wochenschrift, 1900, Nos. 20, 21.

THE NEWSPAPER AS A PATHOLOGICAL FACTOR.

A newspaper in an Eastern city changed hands about July 1, and the new proprietor, who has a large practical experience in legitimate journalism, at once formulated a set of rules for the conduct of the paper under its changed management. Among the rules were the following suggestive prohibitions: "No medical advertisements"; no advertisements that a self-respecting man would not read to his family; no advertisements of immoral books, of fortune tellers, of secret diseases, of guaranteed cures, of clairvoyants, of palmists, of massage; no advertisements of offers of large salaries, of guaranteed dividends, of offers of something for nothing; no pessimism; no prize-fighting details; no personal journalism; no private scandal. Here is a program that involves the removal of most of the objectionable features in so-called modern journalism. If its details could be conscientiously carried out for newspapers, medical men would find less objection than at present to the promiscuous reading of the daily press, which is working such great harm. Two prohibitions should be added to the list: no details of suicides; no details of homicides, especially such as are committed under circumstances that point to the mental disequilibration of the active agent in the tragedy. If these prohibitions were faithfully kept we should have many less suicides and murders, since often the imperative idea that leads to their committal is suggested by the reading of these cases. How important the influence of such stories is on the mentally unbalanced, can be best realized from the fact that crimes of peculiar heinousness occur in groups. The time relation of these groups, taken in connection with their inevitable recurrence, shows that they are not mere coincidences, but are due to the rigid principle of cause and effect. It has been said that it is impossible to correct the sensational defects of the modern newspaper. A distinguished dramatic manager, when asked where he would begin if he wished to reform the American stage, said that he would begin with the audiences. This principle will apply to journalism. We shall have cleaner newspapers when readers demand and support them. Meantime, much can be done to raise the standard of taste among newspaper readers. So many of the prohibitions that should be enforced in the make-up of the daily newspaper have special reference to health matters that it is evident that medical men should take a lively interest in the subject. It is a duty of the physician to try to secure the suppression of the objectionable advertising matter that is flaunted in the faces of readers and that does so much moral and physical harm.

MAGNET FOR REMOVING TUBE FROM LARYNX.—Collet of Lyons introduces a curved magnet into the pharynx, following the base of the tongue. The laryngeal tube clings to and is easily drawn out with it. This device has proved extremely useful in emergencies, as no skill is required to remove the tube in this way.

Medical News.

CALIFORNIA.

The College of Physicians and Surgeons of San Francisco, at its commencement exercises, July 2, conferred the degree of Doctor of Medicine upon thirty-seven students.

Park Emergency Hospital.—The sum of $5000 has been set aside by the Board of Supervisors of San Francisco for the construction of an emergency hospital in order that people injured in the park may be properly treated.

A chair of anatomy in the University of California has been created, and Dr. Joseph Marshall Flint, instructor in anatomy at the University of Chicago, has been appointed to occupy it, with a salary of $3000 a year. It is the expressed desire of the Regents later to establish a scientific medical school at the University, which shall be under the complete control of the state.

Fakirs and Quacks will be Weeded Out.—The Los Angeles Board of Health has issued a notice to every practicing physician, dentist and pharmacist in the city notifying them that in case they have not registered according to law, but ten days more will be permitted them to do so, and that a failure to comply will be followed by legal prosecution. A fine of from $50 to $500, or imprisonment from 30 to 365 days, or both, is the penalty fixed for attempting to practice without a license.

CONNECTICUT.

A $25,000 appropiation has been made by the state legislature to the Hartford Hospital for the purpose of providing a special building for the treatment of pulmonary tuberculosis.

The State Board of Medical Examiners recently passed a rule in which they admit to examination only those who have graduated from a medical college. Hitherto they had allowed an applicant to take the examination. Another rule makes the examination fee $15 instead of $10.

Hospital Staff Changes.—At the General Hospital, New Haven, Dr. James W. Dounce has been promoted from assistant house-surgeon to house-surgeon, Dr. Thomas F. Maher, Yale, 1901, becoming assistant, and Dr. Carl W. Henze, formerly assistant house-physician, to the position of house-physician, his place being taken by Dr. Edward E. Meyers, Harvard, 1901.

Epileptics in Connecticut.—The committee, consisting of Drs. Max Mailhouse, New Haven, Edwin A. Down, Hartford, and Frank K. Hallock, Cromwell, which was appointed to ascertain for the Connecticut State Medical Society the number and condition of epileptics in the state has completed its inquiry. The number reported was 542, of whom 315 are males and 227 females. According to the report, 224 cases are in public institutions; 114 are capable of self-support, and 128 adult epileptics are insane. The committee reports a lack of interest in the welfare of epileptics, and that little is done to promote their comfort and to ameliorate their condition. The investigators regard the number of cases reported to them to be the minimum, and are convinced that the actual number of epileptics in the state is not less than 1000.

DELAWARE.

Wilmington has awarded the contract for building a $3500 pest-house at Farnhurst.

Delaware Medical Examining Board has granted licenses to practice to seven of the nine candidates who appeared before it recently for examination.

Through the will of Mrs. Caroline McClary, Wilmington, the sum of $5000 has been given the Delaware Hospital for the endowment of a free bed in memory of her husband, Samuel J. McClary.

DISTRICT OF COLUMBIA.

Dr. C. B. Purvis sailed for Europe on the steamship *Etruria*, July 6.

Providence Hospital.—The sum of $250,000 has been spent in improving and making additions to the hospital and both from a practical and artistic standpoint when completed it will be a credit to the city of Washington.

Smallpox Hospital Closed.—The quarantine station for the District was closed July 7, after the release of the seven suspects, who were declared out of danger, and the dismissal of the six guards who have had charge of the hospital during the epidemic. Officially the city is free from smallpox.

Changes at the Casualty Hospital.—Dr. Henry Tobias has been appointed resident physician at the Casualty Hospital and Eastern Dispensary. Dr. Thomas G. Jones has been made assistant resident physician, in place of Dr. R. A. Warner, who becomes interne at the Washington Asylum Hospital.

Increase in Insanity.—Statistics recently compiled by the local health office show that during the year ending July 1, 1900, 270 persons were adjudged insane in the District, while the fiscal year ending July 1, 1901, gives a total of 295 cases sent to the asylum. Of that number nearly 200 cases have been heard within the past six months.

GEORGIA.

The new Presbyterian Hospital at Atlanta was formally opened July 1.

Twenty-eight beneficiary scholarships in the Augusta Medical College, a department of the State University, were bestowed by Governor Candler, July 2.

Dr. Warren A. Brewster, who for the past year has been senior resident physician at the Lamar Hospital at Augusta, has been appointed superintendent of the City Hospital at Augusta.

An epidemic of anthrax is afflicting Bolivar County, and the State Board of Health, owing to the failure of the State Legislature to make, at its last meeting, the necessary appropriation, is unable to check the spread of the disease. A special joint meeting of the Board of Public Contracts and the executive committee of the Board of Health has been held, but as yet no funds for the establishment of the necessary quarantine have been secured.

ILLINOIS.

Dr. Joseph M. D. Robbins, Quincy, has assumed charge of the State Insane Asylum at Jacksonville.

Dr. R. H. Mead, Camden, has been appointed on the staff of the Chester penitentiary at a salary of $1500 a year.

Dr. Nelson K. McCormick, Normal, has been re-elected physician to the Illinois Soldiers' and Sailors' Home at Normal.

Dr. Philip F. Gillett, Stillman Valley, has been appointed assistant physician at the Northern Illinois Hospital for the Insane at Elgin.

Dr. George E. Baxter has been appointed physician to the State Institute for the Blind, at Jacksonville, to succeed Dr. Frank P. Norbury, resigned.

Dowie's leases in his new home of the to-be-blest Zion City are for a term of 1100 years and provide that the leased ground can not be used for drug stores or physicians' homes or offices.

Dr. E. R. Whitmore, who has recently finished his service in the Cook County Hospital, has been commissioned Assistant Surgeon, U. S. A., with the rank of first lieutenant and will be assigned to duty in Washington during the coming winter.

Trained Nurses Organized.—Under the title of the Illinois State Association of Nurses the trained nurses of this state have formed a permanent organization. The primary object is to secure state legislation looking toward the passage of laws prohibiting the practicing of nurses without a diploma granted by a training school. Representatives from all the training schools throughout the state were present at the recent meeting held in Chicago and the following officers were elected: President, Miss Harriet Fulmer, St. Luke's training school; secretary, Miss Seiderstriber, Hahnemann training school, and treasurer, Miss Ledwich, Illinois training school.

Chicago,

Dr. Wladislaw A. Kuflewski was elected vice-president of the Public Library Board, July 11.

Dr. August M. Unger was convicted of conspiring to defraud insurance companies and sentenced to the penitentiary, the motion for a new trial being denied. This closes the famous Defenbach case.

The College of Physicians and Surgeons has selected its officers for the coming year, as follows: Dr. D. A. K. Steele, actuary; Dr. William E. Quine, dean, and Dr. Frank B. Earle, secretary, vice Dr. W. A. Pusey, resigned.

Cook County Hospital is being fitted with two new boilers at a cost of $16,550. The recent investigations by the special committee, selected for that purpose, left no question as to the insufficiency of the boiler capacity in the hospital.

Bad Milk at Cook County Hospital.—The warden of the hospital complains of the filthy sediment found in the milk provided to the hospital. He submitted some milk for analysis to the city bacteriologist, who found that it contained formalin.

Big Fee Not Allowed.—In the suit against the estate of the late millionaire, Francis T. Wheeler, brought by Dr. Emma N. Warne for the sum of $100,000 for professional services, the claim was denied by the Probate Court. Dr. Warne has announced her intention of appeal.

Deaths and Public Health.—With an extreme range of 46 degrees in maximum temperatures—from 56 on July 7 to 102 on July 10, this latter being the highest ever recorded in Chicago—the total deaths reported from all causes last week were only 460, or but one more than during the previous week. The public health conditions have rarely been more favorable. Laboratory examinations show a remarkable absence of contagious-disease germs and the health department reports the fewest number of these diseases notified in any one week since the summer of 1899.

IOWA.

The Sioux City College of Medicine will have the same officers for the coming year, and Dr. J. H. Robbins has been elected to fill the chair of pathology.

Delegates Appointed.—Dr. Van Buren Knott, Sioux City, and Dr. John C. Schrader, Iowa City, have been appointed by Governor Shaw as delegates to the British Congress on Tuberculosis in London.

Insane Hospital Burned.—Fire completely destroyed the Insane Hospital, the Des Moines County Poor-farm and the overseer's residence, at Burlington, July 14. All of the inmates were gotten out safely, but several of the insane patients escaped during the excitement. The loss is estimated to be $40,000, with $25,000 insurance.

MARYLAND.

Baltimore.

Dr. J. Frank Crouch sailed for Germany July 18.

Drs. Francis T. and L. Wardlaw Miles sailed for Europe July 13.

Dr. T. Caspar Gilchrist sailed for England, July 20. He will pay a flying visit to Germany during his absence.

Drs. J. R. Bosley, G. R. Holden and J. C. Salter sailed from this port, July 10, on the North German Lloyd steamer *Frankfurt*, for Bremen.

Owing to smallpox in Sussex county, the State Board of Health has formally notified the Delaware Board of Health that, unless more rigid measures are taken to control the smallpox now in Delaware, a state quarantine will be declared in Maryland against the State of Delaware.

The Medical and Chirurgical Faculty of Maryland is at last entirely out of debt, through the energetic exertions of its treasurer, Dr. Thomas A. Ashby. Since 1896, when the Society moved into its new quarters, 847 Hamilton Terrace, about $25,000 has been raised among the members.

The trustees of the Sheppard and Enoch Pratt Hospital for the Insane will erect a recreation building for the use of patients at a cost of about $15,000. The house will be built on the Casino plan, one story in height, and will be divided into two departments, one for women and the other for men.

NEW JERSEY.

An anti-spitting ordinance has been recently passed by the Plainfield Board of Health.

Dr. Sewell O. B. Taylor, Millstone, has been elected physician of Somerset County to fill the unexpired term of the late Dr. Henry G. Wagoner, of Somerville.

In a competitive examination, Dr. Leo Spiegel, New York, obtained the position of house-surgeon, and Dr. Oscar J. Russi, Bordentown, N. J., that of house-physician in St. Francis Hospital, Jersey City.

State Board of Medical Examiners.—At the annual meeting of the State Board of Medical Examiners, held at Newark, July 5, the following officers were elected: President, Dr. Charles A. Groves, East Orange; treasurer, Dr. A. Uebelacker, Morristown; secretary, Dr. E. L. B. Godfrey, Camden. Fifty-one candidates for licenses were examined, and of that number 29.4 per cent. were rejected.

NEW YORK.

Anthrax has broken out among the cattle in the neighborhood of Higginsville near Rome. Many head of cattle have died, and the state authorities have been notified.

Statistics of work done by the health department at Albany, show that 7000 people have been vaccinated during the epidemic of smallpox now existing at that place.

"Bonesetter" Sweet has been arrested, at the instigation of the Otsego County Medical Society, for practicing surgery without a certificate. He comes from a family long known in Otsego county as "bonesetters," and his arrest is the result of a resolution recently passed at the County Society meeting to prevent any one practicing without a certificate.

Hospital Changes at Syracuse.—At the Hospital of the Good Shepherd, Dr. C. F. Ostrander, formerly house-physician, becomes house-surgeon, and Dr. Albert E. Stafford becomes house-physician; Dr. Henry G. Thrall will become ambulance-surgeon, Jan. 1, 1902. At St. Joseph's Hospital, Drs. William J. Mulheran and T. L. Hatch began their services as internes, July 1.

The Board of Regents of the State, who have entire control of all educational matters, has, at the request of the Medical Examining Board, made a regulation that examinations in anatomy, physiology, hygiene and chemistry be permitted at the end of the candidate's second year of study, immediately after his completion of these subjects, the final examination, in the other subjects, being held only after the medical degree has been received.

Buffalo.

Dr. Nelson G. Russell has been appointed pathologist to the German Hospital.

Dr. Lorenzo Burrows has been appointed ophthalmologist to the Buffalo General Hospital, succeeding Dr. Frank Abbott, deceased.

German Hospital Clinical Society.—The members of the staff of the German Hospital have organized a clinical society. Meetings will be held monthly at which the attending physicians will demonstrate cases of interest in their respective departments. The first meeting will be held in August and an invitation will be extended to the members of the Central New York Medical Association, which is to meet in Buffalo at that time, to be present.

New York City.

Deaths from Heat.—The official reports of the Bureau of Vital Statistics of deaths from heat for the week ending July 6, show that the actual number in the five boroughs of Greater New York was 989.

New York City's death-rate for last week was 40.82 per 1000 per annum, almost double the usual summer rate, and this large increase was due to the excessive heat that prevailed in the early part of the week. There were 2767 deaths from all causes against 1524 for the corresponding week in 1900.

Bellevue Hospital Buildings Condemned.—The State Board of Charities, at its meeting in Albany, July 10, condemned the main buildings of the Bellevue Hospital as being too old and insanitary. A resolution was also passed to increase the compensation of employes in the interest of improved service. A modern hospital is to be erected as soon as possible.

Suit for $10,000 damages has been begun against Joseph J. Gansky, a dealer in anatomical instruments in Brooklyn, on the grounds that he undertook to treat a case, representing himself to be a licensed physician. The plaintiff, Sadie Schoenberg, 10 years old, through her attorney, alleges that the amputation of her leg, which was found necessary at St. Vincent's Hospital, May 2, was due to the mismanagement of her case by the defendant.

The Manhattan Maternity and Dispensary, the object of which is to supply medical and surgical treatment to the poorer class of women, to provide facilities for the instruction of physicians and students, and to establish and maintain a training school for nurses, has been incorporated. Through the generosity of an unknown philanthropist, who has endowed the institution with the sum of $1,000,000, this work will be made possible. Dr. J. Clifton Edgar, who has displayed much interest in this work, will probably have charge of the institution.

Summer Health Inspection.—The Health Department, represented by seventy-five physicians in their employ, began, on July 8, a thorough inspection of all tenement houses. The duties of these physicians are to care for any sick, unable to employ a physician; to advise mothers as to the proper method of caring for children; to abate nuisances, or to report them to the proper authorities; to distribute tickets for outings given by St. John's Guild; to give free ice tickets where needed, and to note any habits which may be unhealthful.

The population of New York City on Dec. 31, 1900, as estimated by the Board of Health, now appears as follows: *Manhattan Borough*, 1,850,093; Brooklyn Borough, 1,166,582; Bronx Borough, 200,507; Queens Borough, 152,999; Richmond Borough, 67,021; making a total of 3,437,202. Of this total city population those living in tenements number 2,382,605, about two-thirds of the whole, the remaining one-third residing in private houses, hotels and boarding houses. The proportion living in tenements becomes much larger in the city proper when we consider the fact that the boroughs of Bronx, Queens and Richmond are largely rural.

OHIO.

Dr. George J. Fisher, Cincinnati, has been selected as chief of the medical staff for the Y. M. C. A. convention to be held in that city. He will be assisted by Drs. Edward S. Johnson, E. Otis Smith, Milton G. Blunden, Frederick Theiss, Albert Gustetter, S. A. Allgaier and Edward H. Moss.

State Examination.—The State Board of Medical Registration and Examination held a meeting, July 9, 1901, for the purpose of passing on the grades of applicants examined on June 11, 12 and 13, 1901. There were 37 applicants examined, 29 of whom passed successfully; 7 were rejected and one was dismissed from the room for using a book to secure aid in answering questions.

In the suit of Dr. B. Merrill Ricketts, Cincinnati, against James W. Brown, for medical services to the defendant's son, the jury returned a verdict for the full amount of the claim, $826.26. The defense, that the son was of age at the time that the services were rendered, was not regarded by the jury because it was shown that the father had engaged the Doctor and told him to spare no effort or expense in the treatment of the case.

PENNSYLVANIA.

Dr. Francis Rahn, recently elected resident physician of the Norristown Charity Hospital, entered upon his service July 1.

Dr. Mary McCay Wenck, Sunbury, Pa., sailed on the *Laurentian*, July 6, for Glasgow. She will visit England and France.

Dr. Carmichel, a recent graduate of the University of Pennsylvania, is resident physician of the Chester County Hospital, at West Chester.

WISCONSIN.

Dr. John R. Currens, Two Rivers, has been re-elected president of the State Board of Medical Examiners.

Smallpox in the State.—From the reports of the disease throughout the northern parts of the state, the situation is still considered serious.

"Dr." John Shenion Convicted.—At Manitowoc John Shenion, Reif's Mills, was convicted of the charge of practicing medicine without a license and was fined $50 and costs. Not being able to pay his fine, he is now serving out a sentence of ninety days in jail.

Medical Law Sustained.—The law passed by the last legislature, requiring an examination of all applicants for licenses to practice who are not graduates of a Wisconsin college, was held in the Circuit Court to be constitutional and a valid exercise of the police powers of the state. This decision was rendered to quash the writ of mandamus served on the State Board of Medical Examiners, to compel them to issue a certificate to Dr. James R. Kellogg, Portage, who is a recent graduate of the College of Physicians and Surgeons, Chicago. An appeal was taken to the Supreme Court, where the case will come on for trial at the August term, and will be watched with much interest.

GENERAL.

New Cases of Plague in San Francisco.—Bubonic plague has again broken out in San Francisco, four cases having already been reported. The first case was that of a Chinaman, who died July 6. It is reported that he arrived in San Francisco a few days before from one of the lower islands on the Sacramento River, and that he was ill when he reached the city. An autopsy was performed and diagnosis of bubonic plague was verified by bacteriologic examination. After the death of the Chinaman three more deaths were reported. These were Japanese women who were living in a brothel on Stockton Street, in the Chinese section of the city. Bacteriologic examination confirmed the diagnosis in two of these; the result of the third had not yet been reported up to the writing of this note. Two of these cases were ill with the disease a week before the Chinaman landed in San Francisco, so they have no relation to that case. Another case is reported among the Japanese women, but not confirmed. This seems to be a new outbreak, as no new cases have been discovered for three months, the last case reported by the Marine-Hospital Service being April 4. The local and state boards of health seem to be working more in harmony now than during the former outbreak, and in unison with the Marine-Hospital Service. The cleaning of Chinatown was completed June 22, but inspection and postmortem examinations of Chinese have been continued under direction of the Marine-Hospital Service.

Enno Sander Prize.—The prize for 1901-1902 has been generously increased by its founder to consist of a gold medal, valued at $100, and $100 in cash. The subject for this year is "The Most Practicable Organization for the Medical Department of the United States Army in Active Service." The following are the conditions of the competition: 1. Competition is open to all persons eligible to active or associate membership in the Association of Military Surgeons of the United States. 2. The prize will be awarded upon the recommendation of a Board of Award selected by the Executive Committee. The board will determine upon the essay to which the prize shall be awarded, and will also recommend such of the other papers submitted, as it may see fit, for honorable mention. 3. In fixing the precedence of the essays submitted, the board will take into consideration—primarily—originality, comprehensiveness and the practicability and utility of the opinions advanced, and—secondarily—literary character. 4. Essays will consist of not less than 10,000, nor more than 20,000 words, exclusive of tables. 5. Each competitor will send three typewritten copies of his essay in a sealed envelope to the secretary of the Association, so as to reach that officer on or before Feb. 28, 1902. 6. The essay shall contain nothing to indicate the identity of the author. Each one, however, will be authenticated by a nom de plume, a copy of which shall, at the same time as the essay, be transmitted to the secretary in a sealed envelope together with the author's name, rank and address. 7. The envelope containing the name of the successful competitor will be publicly opened at the next succeeding annual meeting of the Association, and the prize thereupon awarded. 8. The successful essay becomes the property of the Association of Military Surgeons of the United States, and will appear in its publications. The Board of Award consists of William Cary Sanger, Assistant Secretary of War; Brigadier General George Miller Sternberg, Surgeon-General, U. S. Army, and some distinguished officer of the line to be announced later. Major James Evelyn Pilcher, Carlisle, Pa., is secretary of the Association.

FOREIGN.

Professor von Koranyi has endowed a prize to be awarded every five years for a publication on the cure of tuberculosis. The occasion was the golden jubilee of his professional career which was celebrated recently.

Italian Congress of Internal Medicine.—The Eleventh Congress of Internal Medicine will be held at Pisa, October 24 to 28. Addresses will be delivered by Queirolo and Fedeli on "Peritonitis in Typhoid Fever;" by others on "Modern Questions in the Pathology of the Liver," and by Baccelli on "Certain Problems in the Pathology of the Heart."

American Dentists in Germany.—The Association of German Dentists is planning to vigorously oppose the practice of American dentists in Germany. The latter seem, by their superior ability, to be gaining a foothold that is very annoying to the native dentists and the opposition is probably a result of jealousy. The aid of physicians is asked for, they being urged not to give anesthetics to the patients of the Americans. The physicians, however, do not seem willing to lend their support to the movement.

Society for Sanitary and Moral Prophylaxis.—The Belgian government has appropriated $400 to assist in defraying the expenses of the quarterly issued as the "Bulletin of the International Society for Sanitary and Moral Prophylaxis." The first number has already appeared and contains a fine article on the Prophylactic Congress, with outlines of circulars for collecting general statistics, etc., and among others communications from Neisser and Minod on the importance of personal prophylaxis against venereal infection, and minors as prostitutes.

Medical Regulations for German Students.—The new regulations in Germany practically lower the standard of admission to medical study in the universities, but extend the course to six years, as ten semesters are required instead of nine as heretofore, and after graduation, the candidate for a physician's title must first pass a year in a clinic or polyclinic connected with the university or some hospital. If no such opportunity presents itself, the graduate may be authorized by the chancellor to act as assistant to some physician with a large practice. Failure to pass three examinations in the same branch of the medical sciences definitely excludes the student from the course, and also failure to pass a portion of the same examination on three consecutive years.

LONDON LETTER.

The Census.

The preliminary report on the recent census in England and Wales has been laid before parliament. The total population was found to be 32,526,075 which shows an increase of 3,523,550 upon the population in 1891, giving a decennial rate of increase of 12.17 per cent., as compared with 11.65 of the previous decennium. The increase now recorded is numerically greater than in any previous decennium, but the rate per cent. is lower than in previous decennia excepting those terminating in 1861 and 1891. The mean of the decennial rates of increase in the ten decennial periods 1801-1901 has been 13.84 per cent. The highest rate was in 1811-21, when the percentage rose to 18.06, and the lowest in 1881-91, when it fell to 11.65. In 1881-91 the excess of births over deaths was 3,629,474 or 13.97 per cent.; in 1891-1901, 3,593,553 or 12.39 per cent. Had the loss of population by excess of emigration over immigration been at the same rate as in 1881-1891 the decrease under this heading would have been 671,502, whereas it actually was 70,003. But for the unusual drain on the population by the South African War this loss would have been wiped out, and for the first time a gain would have been established by excess of immigration over emigration. Since the accession of the late queen in 1837 the population has more than doubled. The present population consists of 15,721,-

728 males and 16,804,347 females. The excess of females is partially attributable to the number of men serving in the army, navy and merchant service abroad, who are excluded from the reckoning. To each 100 males enumerated there are 106.9 females. The proportion of females has been steadily increasing since 1851, having been successively 104.2, 105.3, 105.4 105.5, 106.4, and 106.9 to 100 males. The increase of population has principally taken place in the urban districts. The urban districts contain 77 per cent. of the population and show an increase in the decennium of 15.2 per cent., the rural districts of only 2.9 per cent. The population of London is 4,536,063, showing a decennial increase of 307,746. As in previous census reports it is found that in the center of London there is a group of districts in which the population has long been decreasing, owing to the substitution of business for dwelling houses, that round this central area is a ring of districts which have undergone a more or less rapid increase, and that outside this is a wide belt of suburban districts in which the population increases with extraordinary rapidity.

A summary, subject to revision, is given of the population of the United Kingdom which amounts to 41,454,578, showing an increase of 3,721,856. The population of Scotland is 4,471,957, showing an increase of 446,310. The population of Ireland is 4,456,546,—a decrease of 248,204, or 5.3 per cent. In the preceding decennia the decrease was 4.4 and 9.1 per cent. The excess of births over deaths was 218,222, hence the loss by emigration was 466,426. In 1821 the population of Ireland constituted 32.6 per cent. of the United Kingdom. Since then it has continuously decreased and now it constitutes only 10.8 per cent.

Municipal Consumption Hospitals.

The anti-tuberculosis movement in this country still continues to be very active. The latest phase is shown by new departures in municipal work in two great cities. At Edinburgh it is proposed to establish an hospital of 100 beds for incurable cases of consumption so as to diminish the risk of the patients becoming a source of infection. The idea of the health authorities is that such cases are, from the public health point of view, on the same footing as the acute fevers and should be isolated. A hospital with 100 beds would, it is thought, be capable of accommodating 400 patients annually at a cost of $25,000. In Sheffield, on the other hand, it is proposed to take means to facilitate the arrest of the disease. The Corporation propose to maintain a sanitarium for the treatment of poor persons suffering from consumption. Over 500 deaths from the disease take place every year, and it is estimated that at one time there are 1500 to 2000 persons suffering from it. It is proposed to limit the cases admitted to patients in the early stage. The time of residence required for the arrest of the disease is estimated at 3 to 6 months. For the treatment to be of real value it will be essential that the patient does not return to his insanitary surroundings or unhealthy trade. The committee who manage the institution will instruct the patient to get ino a more sanitary house and assist him in obtaining another occupation if necessary.

CANADA.

Appointment.—Dr. Thomas H. Lunney has been appointed superintendent of the General Hospital, St. John, N. B., succeeding Dr. John MacCauley, who resigned. Dr. Lunney is a native of St. John and was graduated from McGill, Montreal.

Ottawa's Mortality Rate.—The mortality amongst infants and children in Ottawa still continues high. On the 11th, 9 deaths were registered, the largest number noted in one day during the year. For the month of June the number was 108. Since January 1 there have been 520 deaths in the Catholic parishes of the city.

New Hospital.—St. Stephens, N. B., proposes erecting a new hospital and Lady Tilley, wife of the late lieutenant-governor, Sir Leonard Tilley, is at the head of the movement. A splendid site has been donated and it is expected that the equipment will be provided by public subscription and the maintenance secured by a grant from the local government. Already five beds have been endowed and others practically guaranteed.

Smallpox Among Berry-Pickers.—Dr. C. A. Hodgetts, special officer of the Ontario Board of Health, has returned to Toronto after investigating the smallpox outbreak among berry-pickers in Brant County. During his visit of inspection he visited 34 houses and found that there had been altogether since April no less than 98 cases of smallpox or varioloid. Of the remaining 56 persons who were in the infected houses, 45 had been successfully vaccinated, thus forming a striking contrast to the 81 unvaccinated persons who had suffered from the disease. According to age, two cases were under one year; from one to ten, 40 cases; ten to twenty, 18 cases; twenty to thirty, 13 cases; thirty to forty, 10 cases; forty to fifty, 7 cases; fifty to sixty, 5 cases; sixty to seventy, 3 cases.

Ottawa Contagious Diseases Hospital.—For a long time Ottawa has been endeavoring to establish a proper hospital for infectious and contagious diseases, but so far their attempts have proven of no avail; now a new feature has appeared on account of it having been alleged that certain aldermen are in a deal, so an investigation has been ordered. About two weeks ago the city council suddenly came to a decision one night to buy a lot of land on the high sandy banks of the Rideau, in the rear of the Protestant General Hospital, and agreed to pay $31,000 for it, which is said to be just double the assessed value of the property. Ever since the decision to purchase was arrived at there have been persistent rumors that some aldermen profited by the deal; and now the mayor has requested the city solicitor to institute an inquiry to ascertain whether it is true that some of the aldermen and even members of the board of health are implicated in this transaction. In the meantime while all this trouble is pending, there is, according to the statements of the city health officer, an alarming prevalence of contagious diseases and a lack of adequate means of isolation.

Health in Ontario Lumber Camps.—The Ontario government has made an important and timely move in adopting regulations to safeguard the health of workmen employed in lumber camps and other unorganized districts of the province. These regulations will hold the owner, manager or foreman of every lumbering camp, mining camp, saw-mill, smelting works, railway construction camp, or other industry, responsible for the enforcement of all provisions as to sanitation. They regulate the size of tent or houses and the ventilation thereof. They further provide for a hospital tent or building which must be located by the physician in charge in a position to satisfy the inspectors of the provincial board of health. The regulations are comprehensive and have been prepared with a view to the protection of a population numbering at least 100,000 distributed over some 400 unorganized townships extending over 1200 miles from the Ottawa River to the Manitoba boundary. It is specially requested that prompt notice be given the provincial board of health in Toronto of all outbreaks of contagious diseases, and all insanitary conditions discovered in lumbering and mining camps.

Miscellany.

Bacteriology of Phthisis.—The researches of Lasker, described in the *Deutsche Aerzte-Ztg*, No. 2, seem to solve the question as to the presence of bacteria in the blood in cases of pulmonary phthisis. He found the blood sterile in 67 out of 68 patients investigated with the most scrupulously careful technique. The patient with the positive result died nineteen hours later, so the presence of staphylococci in the blood may have been an agonal phenomenon. This may explain possibly the positive results of bacteriologic investigation by others, or they may have been due to contamination from the skin.

The Diazo-Reaction in Pulmonary Tuberculosis.—Stadelmann states in the *Deutsche Med. Woch.* of June 20, that the diazo-reaction was noted in 55 out of 152 cases of pulmonary phthisis. It was observed in 38 out of the 69 exceptionally severe cases. He concludes that this reaction has no significance for the diagnosis, but affords important information in respect to the prognosis when the test is positive, although 40 to 50 per cent. of the severe cases do not give the reaction. He points out also that the reaction is only significant when it persists. It may appear temporarily in light cases and it may be absent in many serious cases, but when it is persistent, even in apparently mild cases, it is a warning for especial vigilance over the patient.

The False Pregnancy of the Queen of Servia.—The *Sem. Med.* of May 22, published the letters written and received by Dr. Caulet, the Paris physician of the Queen of Servia. He states that he was summoned to her thirty-three days after her marriage and from the suppression of the menses, nausea, and swelling of the breasts, he informed her of the possibility of a commencing pregnancy and advised her to give up a tedious trip she had in prospect. He then returned to Paris but wrote to her five months later demanding an examination. In reply he was informed that he would be summoned for the accouchement, but in the meantime she was in charge of her local physician. When summoned at term, he found no traces of a pregnancy. Sneguireff arrived from Russia the next day and the bulletin signed by both physicians confirmed the fact that there was no basis for the assumption of a pregnancy beyond the partial suppression of the menses, gastric disturbances, increasing obesity and flatulence, although, Caulet adds, the subjective symptoms of this "nervous pregnancy" might have deceived even an experienced mother.

Precautions Necessary with Hydrogen Dioxid.—Two French professors at Lyons have recently called attention to the ready absorbability of hydrogen dioxid and the consequent danger of fatal gaseous embolism from bubbles of oxygen forming in the blood after absorption, when it is applied to an open wound or to detach an adherent dressing. In contact with the blood, as with pus, the effervescence continues. The oxygen is disposed of by the oxyhemoglobin in the blood if the amount is small, and no harm results. Inflamed tissues are peculiarly active in decomposing the dioxid, and absorption is always slow and gradual in all cases. Crolas advises rendering the dioxid alkaline by adding a saturated solution of sodium borate, a drop at a time, until litmus paper—first reddened by the dioxid—regains its blue color. Even aside from the fear of gaseous embolism, the dioxid should always be neutralized, as it is liable to contain more or less sulphuric, phosphoric or other acids. It should never be used stronger than eight to ten volumes, and always fractioned and in moderate amounts. With these precautions there need be no fear of the slightest evil effects from its use.

Another Fad—Air and Sun Cure.—According to a newspaper report there exists on Long Island an institution for physical culture, where the "air and sun cure" is carried on in such a way as to arouse considerable opposition on the part of permanent residents. The treatment seems to include the use of pretty nearly a minimum of clothing and this in both sexes, and on the public roads, at the local postoffice and the railroad station. The sights at the depot became the gossip of the road and attracted curious visitors, while they scandalized the residents. It was when the "sun curists" finally attempted to invade the village church in their abbreviated costume that the storm broke and the citizens met in conclave and protested, sending word to the proprietor of the resort that while they had no objections to the methods, if carried on in due privacy, they distinctly objected to the cure being taken in the scanty clothing on the highways and in the public places. Unless this was discontinued, the paper asserts, it was intimated that the patients would soon have other ailments to nurse. For a time the protest had some effect, but with the advent of hot weather matters are reported as bad as ever, and recourse is threatened to legal proceedings. Allowing for sensational newspaper embellishments, the account, if it has any basis at all, would indicate peculiar methods and management in the "physical culture health home."

"Fatty Heart."—Hirsch corroborates Robinson's statements that the mass of the musculature of the heart is directly proportional to the mass of the muscles of the rest of the body. Many obese persons have a small, insufficient heart and their general musculature is correspondingly defectively developed,—"their thick layers of fat hide their emaciation." Their cardiac disturbances are not due to a fat heart, but are merely heart troubles in an obese subject. They are of diverse nature, from simple weakness of the heart, due to the lack of proportion above mentioned, to stenocardia developing on a basis of arteriosclerosis. Hirsch has observed attacks of angina pectoris on a purely nervous foundation in obese smokers, and urges that this possibility should always be borne in mind. Some obese persons with arteriosclerosis have attacks of dizziness, not followed by paralysis. Others have a hard, wiry pulse, which reveals the localization of the arteriosclerosis in the splanchnic region, and impending hypertrophy of the heart. Chronic interstitial nephritis is a frequent complication of obesity, especially in beer-drinkers. The treatment should aim to continue the increase of albumin while that of fat is arrested. The amount of food may be insufficient, indicated by dizziness in the forenoon, relieved by a lunch between meals. Hirsch recommends moderation in exercise for these patients, and the ergostat rather than sports. A swelling of the liver in connection with slight ascites is an important early sign of congestion of the veins in the trunk. The filling of the liver with blood is the chief means of determining the functional capacity of the right heart. When this reservoir no longer suffices, venous congestion follows.

The Prevention of the Spread of Acute Contagious Diseases.

A noted modern philosopher said that if he were asked to name the greatest and most beneficial discovery of the 19th century, he would not hesitate to say that it was the revelation that contagious diseases were due to germs. This far exceeds in importance, in health matters and happiness, all that steam and electricity and other inventions could bring forth. What are all their gains, if spreading diseases and terrific epidemics have full sway and are at liberty to increase without limit, carrying pain, anguish, desolation and despair to all? The next most important discovery is that the greatest number of these germs are easily killed, because they have no spores, such as the germs of plague, cholera, yellow fever and diphtheria. Experience shows that the germs of scarlet fever, measles, variola, although not as yet discovered, are also easily killed. The germs of tuberculosis, although not recognized as truly spore-bearing, are hard to kill. Anthrax and rabies are the only spore-bearing diseases which may affect men, and are therefore hard to kill. But these are rare compared with the other contagious diseases. We have learned that persons whose clothes are disinfected can not communicate a contagious disease until they become sick with fever. We are also realizing that clothing worn by persons not remaining in an infected room more than a few minutes, like physicians, do not carry disease.

How many days after the first appearance of the fever a contagious disease can be communicated is not known positively. It can be safely accepted that it requires at least two or three days, except for diphtheria. The mild cases are the most dangerous, because they escape attention, but they infect all the same and may beget grave and mortal cases. Therefore when there is the least reason to suspect the presence of a contagious disase in a locality, we should disinfect all cases of acute febrile sickness as soon as fever is discovered. It was by following regulations strictly that during the epidemic of 1897 in the City of New Orleans, inmates, that is, nurses, students, servants of the Isolation Yellow Fever Hospital, Touro Infirmary and Hotel Dieu, were not affected by the fever, although very few were immunes. When cases of fever occur under these circumstances they are exceptional and are due to some disregard of some regulation. A professional trained nurse is usually the best attendant, but a willing, intelligent and active person in good health can efficiently do the work of protection and salvation. The inmates who go in and out of the house must remove their clothes when they come in and leave their clothes in a room remote from the sickroom. This in case, through some negligence, the room has become infected. It is important that no clothes, no bedding, nothing leaves the room, to be used or not in another room, unless it has been thoroughly disinfected. There can be no such thing as partial disinfection. One handkerchief, towel, toy or other article sent out of the sick room without being disinfected may scatter infection. It is unsafe to remove from the room any article that has remained in the room forty-eight hours after fever has manifested itself. We must ever bear in mind that a mild case may cause a malignant case in another. Isolation is an additional precaution, but it is not absolutely necessary. At the Touro Infirmary, Dr. Loeber does not isolate his cases of yellow fever. He places them in whatever bed happens to be vacant, next to a case of typhoid fever or of pneumonia. But he instructs the nurse to be particularly watchful to disinfect at once all that comes from the patient. And yet no case he says has ever originated in Touro Infirmary. These statements are in writing over his signature and on file in the office of the Louisiana State Board of Health.' Isolation alone at best can only postpone the spread since it can not be eternal and as soon as it ceases those coming in contact with the infected room and fomites run great risk of taking the disease.

Nor is detention of patients after recovery any protection as far as the fomites are concerned. Disinfection, therefore, is the sheet anchor. Care and vigilance are required, of course. But we must remember that as eternal vigilance is the price of liberty, just so constant vigilance here is the price of freedom from disease, suffering and death of our loved ones. Disinfection means the destruction of the germs as they leave the body of the patient through the excretions before they turn into dust and infect the room. Disinfection is necessary of all that comes in contact with the patient; fingers, hands, attendant's clothing and the various objects that may have been in contact with him.

The room is the true battlefield. The fight must be made and won in it. Unless the air of the room is infected there is no risk of contagion. No details ever so small must be overlooked. The cheapest and the readiest reliable disinfectant is a 1 to 800 or 1 to 1000 solution of mercury bichlorid. It is made by dissolving three drams of mercury bichlorid with three drams of ammonium chlorid in a bucket of water (brimful). The patient's clothing and bedding should be changed at least once daily; twice daily is better. The clothing, bedding, etc., must not be shaken, but must be handled gently with care, so as not to shake the dust from them. They should be placed at once in the disinfecting solution, soaked thoroughly, then wrung lightly, enough to prevent dripping. They should be laid aside and allowed to stand wet two hours, then they can be sent to the wash without risk. The handkerchiefs, towels and rags used for cleansing and sponging the patient, or for any other purpose, must be treated likewise. The water used to sponge or wash the patient or to rinse the mouth must be mixed with one quart of the disinfecting solution, and allowed to stand two hours before being thrown away. The sputum must be disinfected with special care. It is best to use no spittoon, but a cup and keep it half full with the disinfecting solution. Let it stand five hours before throwing in the closet or the gutters. It is much better to use rags and burn them. The urine must be mixed with one quart of the disinfecting solution from the pail. It must stand five hours before being emptied into the closet. Stir up occasionally, specially before emptying. The liquid feces must be mixed with two quarts of the disinfecting solution if very liquid. Add in the bedpan the equivalent of one dram of mercury bichlorid and one dram of ammonium chlorid. Soft or solid feces should be burned. Build a small wood or charcoal fire in the yard, and when in full blaze throw the feces on it in small quantities at a time.

All vomited matter must be mixed with one quart of the disinfecting solution from the pail. Add in the vessel one dram of the bichlorid and one of chlorid of ammonium. Allow it to stand five hours before being emptied. The water used in washing anything about the room must be mixed with one or two quarts of the disinfecting solution and allowed to stand one hour before emptying. The glasses, plates and spoons used about the room must be disinfected every time they are used, by boiling for thirty minutes. The room must not be swept, but sprinkled and mopped with the disinfecting solution from the pail. The nurse's clothing must be also changed twice daily; all her clothes must be treated like the patient's clothes. The nurse must keep her hands aseptic all the time by washing them in the solution from the pail every time she touches the patient or soiled things; then she must rinse them in clear water to prevent the mercury from making the nails sore. The nurse or anyone else must never drink nor eat in the room, nor use any plate, glass, spoon, fork, knife, etc., which have been used by the patient. The nurse's hands should be frequently washed with carbolic soap and plain water. The disinfection of the patient after recovery must be done by being washed with a solution (tepid) of the disinfecting solution from the pail. Follow this by a wash with alcohol, or by bay rum or cologne water. The hair must be thoroughly washed with the disinfecting solution, then with alcohol or cologne water and then thoroughly dried. The corpse for burial should be wrapped up in a sheet, saturated with a solution of bichlorid of mercury from the pail. Add to the solution in the pail three ounces of the bichlorid and three of the ammonium. If all the details have been carried out, the disinfection of the room after the recovery (or even the death) of the patient is not absolutely necessary, but it is safer to do so.

Be particularly certain that no bedding, no clothes, etc., are removed from the room unless they have been thoroughly disinfected. Toys, books, etc., used by the patient must be burned. Formaldehyde from a Kuhn generator should be used in the sick room and adjoining rooms. When disinfection is not started within two days of the time the disease began, the disinfection of the room must be more thorough. Mattresses, quilts, heavy woolen articles, etc., must be burned. Carpets should be saturated with the disinfecting solution, dried, then swept, and again saturated. After the apartment and contents have been thoroughly fumigated, all the stuffed furniture should be dismantled and the stuffed fabrics, together with the mattresses, should be covered with sheets, taken into the yard and burned.

Special Remarks.—In cholera it is specially from the vomiting and evacuations that the disease is communicated. Therefore no one should drink or eat in the room. The same applies in typhoid fever. In plague, all little sores on the nurse's finger, etc., should be covered with plaster or collodion; all the rats, mice and vermin about the premises should be killed and burned. In diphtheria the germs are contained specially in the secretions from the mouth and nose. Therefore no one should eat or drink in the room. In smallpox, scarlet fever and measles, smear the patient's body with white vaselin as soon as the peeling is about to begin, so as to prevent its drying and turning to dust before it is destroyed by disinfection. As long as the least desquamation continues, the patient must not be discharged and the disinfection of the excretions, clothing and bedding must be kept up. In smallpox the scabs should be burned. Search the scalp of patients for scabs, remove them and disinfect the spot. Scarlet fever and measles, the peelings must be gathered with care and burned. Patients recovering from a contagious disease may communicate the disease as late as fifteen days after recovery. Therefore, continue all the disinfection of excretions, clothes, bedding for fifteen days after recovery.

Prevention of Spread in Houses of the Poor in Remote Localities.—When it is impossible to obtain the necessary chemicals, the next best is the following plan: Boil at once for thirty minutes the clothes, bedding, handkerchiefs, towels, rags, etc., in as large a kettle as can be obtained. Boil the sputum cup, plate, handkerchief, towel or rag, covering the kettle. Add one pint of water to the urine and boil, covering the kettle. Add one quart of water to the feces and boil, covering the kettle. Boil also the bedpan for thirty minutes after the urine and feces have been boiled, then rinse with clean water. As to the vomited matter, add one pint of water and boil, covering the kettle; boil the vessel which received the vomit. The water used in washing anything about the room must also be boiled, and the bucket that contained it be scalded inside and out. The glasses, plates, forks and spoons must be boiled thirty minutes, then rinsed with clean water. The mops must be boiled for thirty minutes. The water from the washing and moppings must be boiled also for thirty minutes. The bucket must be scalded inside and out. Bulky articles—blankets, quilts, mattresses—when partially soiled should be soaked thoroughly with boiling water for thirty minutes. Disinfect the hands by washing them in hot water, as hot as can be endured. After recovery wash the patient all over with hot water. The sheet for burial should be soaked in boiling water. To disinfect the room, wash the walls and furniture with boiling water.

Sanitation of Cities.—To prevent the spread, the prolongation and the return of contagious diseases, localities, cities specially, should be placed in the highest sanitary condition by the filling of lots, drainage, sewerage, asphalting of streets, Schillingering of banquettes, of yards, of spaces under houses, by planting trees; by a system of quick and thorough removal and disposal of garbage; by sprinkling and sweeping streets; by an abundance of pure water and the abolition of cisterns and wells; by the inspection of milk, meat and all articles of food, liquid and solid; by regulating noxious trades and industries; by preventing the overcrowding of tenements and by inspecting the interior of premises to enforce proper condition of the plumbing and cleanliness. We shall add to this long list the destruction of mosquitoes, flies and of vermin of all kinds, since we are learning more and more the important role they play in spreading diseases. Another most important corollary factor of the discovery of germs as the cause of disease, is the certainty we all feel that in time, probably a short time, it will become easy to make a positive diagnosis by culture and inoculation, to make a positive cure by injecting antitoxins and to reliably protect the well by using the vaccine-viruses. All this would seem fanciful and fantastic did we not already possess it all for diphtheria. It is but a question of a few years when we will possess the same means of investigation and of action for all the other germ diseases.—*Edmond Souchon*, President Louisiana State Board of Health.

Book Notices.

A Reference Handbook of the Medical Sciences, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume II. Illustrated by Numerous Chromolithographs and 765 Half-tone and Wood Engravings. Cloth. Pp. 838. Price, $7.00 per volume. New York: William Wood & Co. 1901.

The second volume of the new edition of Wood's "Reference Handbook of the Medical Sciences" bears out the promise of the first and is equally deserving of praise. Its appearance shows that it is practically a new work, a large proportion of the articles contained being entirely new, many others rewritten and all revised to bring them up to date. The articles are much more full and complete in many instances than in the earlier editions, and therefore more valuable as monographic statements of the facts. The subject of the brain alone takes in, in its various points of view, over one-third of the volume, a very large part of which is entirely new. The paper on cerebral anatomy by Prof. B. G. Wilder, which was included in the Appendix in the earlier series, here occupies its proper place and has been extensively revised. Among the new articles here of note may be mentioned those on Cephalocele by Dr. Fred. Peterson, on Cerebellar Disease by Dr. J. Fraenkel, Cerebrospinal Fluid by Dr. H. B. Ferris, the very elaborate Neuroses of the Cerebral Circulation and Histology by Drs. Browning and L. F. Barker, that on the Development and on the Growth of the Brain by Professors Herrick and Donaldson respectively, and that on the Functions of the Cerebral Cortex by Dr. L. Witmer. We should also add to that list the article on Methods of Removing, Preserving, Dissecting and Drawing the Brain by Prof. Wilder, which seems to be exhaustive, and that on the Surgery of the Brain by Dr. Keen, which is an authoritative statement of what may be regarded as the best surgical opinion on this important subject. These do not include all the new and notable contributions by any means, but enough has been said to show how fully and elaborately the subject has been treated. When we consider that a page in this volume is equal to two or three in an ordinary octavo or duodecimo, the compass of the treatment of the various subjects can be better appreciated. In the remainder of the volume we find a similar condition of things, a general revision, and where specially indicated a fuller treatment of the subjects. The subject of Cancer is handled by Dr. W. B. Coley, but in addition we have papers on Carcinoma by Dr. Councilman and on Skin Carcinoma by Dr. J. A. Fordyce. There are other articles noteworthy for length and fulness of treatment, but enough has been said to give an idea of the work. It should be added that the illustrations are very numerous and well selected and include a very large number that are entirely new. The volume is one of the most valuable of a valuable series.

Mosquitoes: How they Live; How they Carry Disease; How they are Classified; How they may be Destroyed. By L. O. Howard, Ph.D., Department of Agriculture, Washington, D. C. Cloth. Pp. 241. Price, $1.50. New York: McClure, Phillips & Co. 1901.

No more timely work has appeared in a long time than this one on mosquitoes. Owing to the discovery of the relation of the mosquito to malarial and yellow fever, there has developed an interest in these little pests that would have been incredible a few years ago. While this interest is manifested among laymen to a degree, it is especially so among physicians, and, as the author states in his preface, they will not be satisfied with half knowledge, but want to know the whole mosquito story. Dr. Howard's special work in the Department of Agriculture has well fitted him to tell this story, and he has told it in a straightforward manner. While it is technical and scientific, it is told in a way simple enough to be comprehended by all, for the book is intended for lay readers as well as for physicians. The subject is considered from the biological, from the medical and from the practical sides. We are told how the different kinds of mosquitoes may be distinguished, how to collect them and rear them for the purpose of study, and especial effort is made to indicate the character, habits and breeding places of those forms of mosquitoes which spread malarial and yellow fever. Directions are given for destroying the pests. In fact, as the title indicates, the author tells us all about mosquitoes, how they live, how they carry disease, how they are classified and how they may be destroyed. It is a book for the physician who desires to post himself on one of the important etiological factors in the spread of disease. The author deserves the thanks of the medical profession for his effort.

Diseases of the Thyroid Gland and Their Surgical Treatment. By James Berry, B. S. Lond., F.R.C.S., Surgeon to the Royal Free Hospital and Lecturer on Surgery at the London (Royal Free Hospital) School of Medicine for Women. Cloth. Pp. 367. Price, $4.00. Philadelphia: P. Blakiston's Son & Co. 1901.

This is a book that is to be commended for the thoroughness and painstaking efforts of the author. The various affections are gone through in considerable detail. The references to the literature are quite complete and, in addition, there is an appended alphabetical index of the authors referred to in the text. While the author necessarily has drawn largely from the literature in the preparation of the volume, he has been careful to select and utilize that material only which seems to him to be the best. It must not be inferred from this that the book is a mere compilation. Originality is shown in every chapter. A detailed report of 100 operated cases in the author's own practice is especially interesting. Citation and histories of other interesting cases are well and plainly set forth. The chapter on "Dyspnea caused by goitre" is especially good. Attention should also be called to the various chapters on "Treatment." The book itself, as regards the make-up, has good type, and is attractive, neat, well indexed, and worth careful study.

Clinical Lectures on Stricture of the Urethra and Enlargement of the Prostate. By P. J. Freyer, M.A., M.D., M.Ch., Surgeon to St. Peter's Hospital. Cloth. Pp. 115. Price, $1.50. New York: William Wood & Co. 1901.

These lectures were delivered at the Medical Graduate College and Policlinic and published in the *Lancet* and *Clinical Journal*. They contain a résumé of the present knowledge of the subject dealt with.

The Hygiene of Transmissible Diseases: their Causation, Modes of Dissemination and Methods of Prevention. By A. C. Abbott, M.D., Professor of Hygiene and Bacteriology, University of Pennsylvania. *Third Edition, Revised and Enlarged.* Octavo, 351 pages, with numerous illustrations. Philadelphia and London: W. B. Saunders & Co. Cloth. Price, $2.50 net.

The author has taken advantage of the necessity for a second edition to revise certain parts of his book, and to add to many subjects. This especially applies to the articles on malaria, yellow fever, plague, filariasis, dysentery and tuberculosis. The original plan has not been altered.

Essentials of Refraction and of Diseases of the Eye. By Edward Jackson, A.M., M.D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic. Third Edition, Revised and Enlarged. 12mo, 261 pages, 82 illustrations. Cloth, $1.00 net. Philadelphia and London: W. B. Saunders & Co. 1901.

This little compend is constructed on the principle of question and answer, and is equal to any in the series. Thereto are added the tests of vision required in the Navy, Army and railway services and in the public schools. The substances that cause "amblyopia ex abusa" are individually considered; the author's Latin, however, needs correction.

Married.

W. C. Hess, M.D., Yale, Iowa, to Miss Sarah Carr, Bagley, Iowa, June 12.

N. F. Tilton, M.D., Marysville, Ohio, to Miss Mabel Dolen, Stanton, Va., March 31.

Walter A. Gresham, M.D., to Miss Mattie Wilson, both of Russelville, Tenn., June 24.

W. A. Harris, M.D., to Miss Dora Crismond, both of Spottsylvania C. H., Va., July 3.

John T. Davis, M.D., Shawnee, Ohio, to Miss Bertha Bevelheimer, Columbus, Ohio, June 2.

Frank W. Burns, M.D., Stewartville, Minn., to Miss Mabel Knapp, Rochester, Minn., June 28.

L. W. Studley, M.D., Beatrice, Neb., to Miss Josephine Mutton, Grand Island, Neb., June 26.

Deaths and Obituaries.

John Curwen, M.D., University of Pennsylvania, Philadelphia, 1844, died July 2, at Harrisburg, Pa., aged 80. He was for fifty years prominently identified with the care and treatment of the insane, assisting in the establishment of the State Hospital for the Insane at Warren, Pa., in 1880, and from that time until his retirement, June, 1900, continuing as superintendent of that institution. The Dauphin County (Pa.) Medical Society met and attended the funeral of their late fellow-member in a body.

James H. P. Wise, M.D., New Orleans School of Medicine, (now extinct), 1869, died at his home in Morgan City, La., July 10, aged 56. He was born in Northampton, Mass., and went to Louisiana with the 20th New York Volunteer Cavalry. He first served at the Marine-Hospital in New Orleans, and afterward as surgeon of the 1st U. S. Cavalry. He moved to Morgan City in 1880 and was mayor for ten years, also collector of the port, quarantine officer, and president of the board of trade.

Samuel G. Crawford, M.D., Kentucky School of Medicine, Louisville, 1880, mayor of Sedalia, Mo., died recently from paralysis, aged 63. He was surgeon major of the 7th Illinois Cavalry in the civil war, and during the Spanish-American war was regimental surgeon of the 2d Missouri Volunteers.

Tabor B. Reynolds, M.D., Albany Medical College, Albany, 1842, of Saratoga Springs, N. Y., died suddenly July 3, aged 81. He was an ex-member of the assembly, an ex-sheriff, a founder of the New York State Medical Association, and a member of the American Medical Association.

Henry G. Wagoner, M.D., University of Pennsylvania, Philadelphia, 1853, died July 2, at his home in Somerset, N. J., from heat prostration. He was president of the medical staff of Somerset Hospital and also a former lay judge of the county court. He was 78 years of age.

Oliver C. Williams, M.D., a pioneer physician of Muskegon, Mich., died at his home July 8, after a brief illness. He was a soldier in the 27th Michigan Cavalry during the civil war, and had been both city and county physician. He was 65 years of age.

Benjamin F. Hastings, M.D., New York University, New York, 1861, who was surgeon of the 18th Massachusetts Volunteers in the civil war, died at a hospital in Boston, where he had been undergoing treatment. He was 65 years of age.

John D. Pitablo, M.D., University of Minnesota, Minneapolis, 1896, who has been the quarantine physician for Minneapolis since Jan. 1, 1901, died July 3, as the result of an overdose of a self-administered opiate.

Robert H. Honner, M.D., Western University Medical Department, London, Ont., 1889, died in Detroit, Mich., July 3, after an illness of five days. He was a member of the faculty of the Michigan College of Medicine.

J. William Stokes, M.D., Vanderbilt University, Nashville, died at his home in Orangeburg, S. C., July 6, after a long illness. He was representative of the Seventh Congressional District of South Carolina.

Leslie M. Hoyt, M.D., Rush Medical College, Chicago, 1883, died July 3, in Augustana Hospital, Chicago, as a result of injuries received while on a vacation in Wisconsin. He was 42 years of age.

Edgar C. Hays, M.D., Washington University, St. Louis, 1868, who served in the ranks through the civil war, died July 8, at Hannibal, Mo., aged 60, after an illness of nine months.

Myron S. Brown, M.D., University of Nashville, Nashville, 1863, died at his home in Danville, Ill., aged 69. He was in the civil war, serving as assistant surgeon, in the 25th Illinois.

George Hay, M.D., University of Pennsylvania, Philadelphia, who devoted much of his time to a study of chemistry and metallurgy, died in Pittsburg, Pa., July 4, aged 64.

James H. Conway, M.D., New York University, New York, 1881, died very suddenly while on a brief vacation near his home in Woburn, Mass., aged 49.

James T. Young, M.D., Bellevue Hospital Medical College, New York, 1864, for the past year an invalid, died at his home in Washington, D. C., on July 3.

Johnson J. Bennett, M.D., University of Vermont Medical Department, 1889, died suddenly while driving from his home, Fenton, Iowa, to a nearby town.

Frank A. Jelleker, M.D., Bellevue Medical College, New York, 1892, died at a hotel in New York City from heat prostration, July 3, aged 32.

John Watts, M.D., Medical College of Ohio, Cincinnati, 1880, died at his home in Lafayette, Oregon, July 6. He was a presidential elector in 1876.

William R. Krissinger, M.D., Baltimore Medical College, Baltimore, 1878, was found dead in his bed on the morning of July 4, at Shanksville, Pa.

B. F. Hyatt, M.D., Starling Medical College, Columbus, O., 1869, died July 2, at his home in Ottumwa, Iowa, from peritonitis, aged 64.

Henry M. Revell, M.D., University of Maryland, Baltimore, 1876, died at Annapolis, Md., July 2, of typhoid fever, aged 46.

Martin H. Williams, M.D., Jefferson Medical College, Philadelphia, 1887, died suddenly at his home in Philadelphia, aged 39.

Thomas L. Taylor, M.D., Medical College of Virginia, Richmond, 1874, died July 2, at his home near Leedstown, Va., aged 67.

James Houston, M.D., Anderson College of Medicine, Scotland, died at his residence in Lawrence, Mass., from apoplexy, aged 51.

John W. Wilson, M.D., Jefferson Medical College, Philadelphia, 1851, died suddenly at his home in Chatham, Va., aged 75.

William H. Burritt, M.D., College of Physicians and Surgeons, Keokuk, 1873, died on July 2, at his home in Toledo, O., aged 59.

W. W. Hays, M.D., Georgetown University, Georgetown, D.C., 1861, died suddenly at San Luis Obispo, Cal., on July 3.

Laurence S. Smith, M.D., New York University, 1872, died at Haverhill, Mass., from a hemorrhage, aged 49.

John M. Brown, M.D., University of Buffalo, Buffalo, 1864, died July 3 at his home in Altmar, N. Y., aged 87.

John G. Lumpkin, M.D., Medical College of Virginia, Richmond, 1851, died at Richmond, Va., aged 71.

Aaron N. Braman, M.D., University of Buffalo, 1851, died suddenly at his home in Rochester, N.Y.

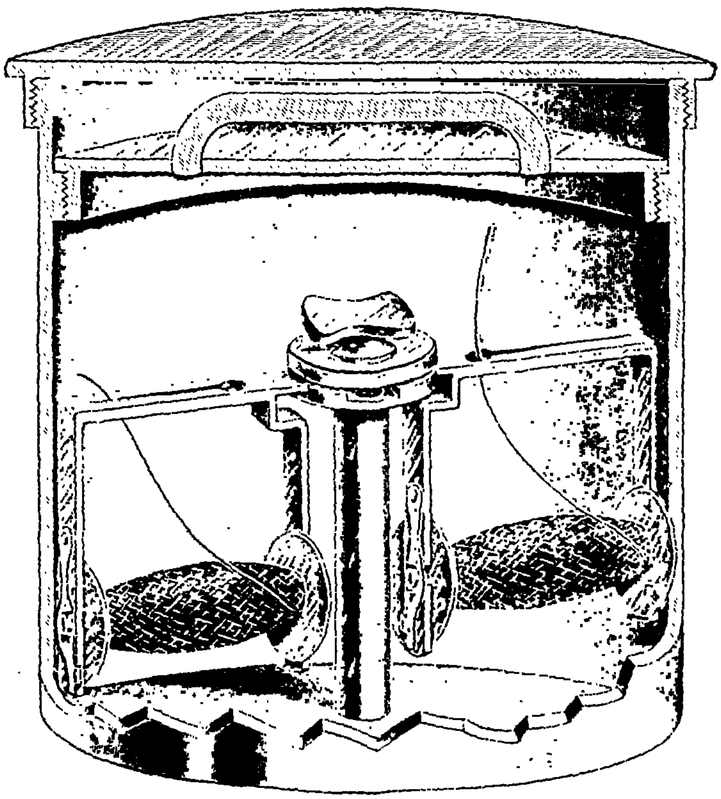
New Instrument.

A NEW CARRIER FOR SUTURE MATERIAL.

AUGUST SCHACHNER, M.D.

PROFESSOR OF SURGERY, LOUISVILLE MEDICAL COLLEGE.
LOUISVILLE, KY.

The ligature reel herein described was designed to replace the glass containers, which are generally considered the most aseptic arrangement at present at our disposal. This reel has all the advantages that apply to the glass arrangement and some additional ones, namely, being of metal it insures against breakage and thus is never exposed to the danger of an accident to the ligature outfit. The durability of the metal box is also greater than that of a glass one. It is true that a glass box has a slight advantage over the metal one in appearance, and for that reason the glass container may still receive the preference in hospitals.



Interior construction of reel. Two spools removed. Of the remaining spools one represents the catgut in the act of being unreeled, the other represents the catgut hooked into the slot.

It is in portability that the metal ligature outfit comes in for its full measure of advantage over its rival, the glass outfit. When we are obliged to operate away from hospitals where we can not always judge the amount and character of suture material that might be called for, we feel the need of an outfit that is practical in every sense, namely, portable, without danger of breakage and liberal supply of all possible material.

This reel will be advantageous in military surgery where a large amount of material can be safely carried.

Description.—The reel can be constructed in different sizes. The most convenient for ordinary purposes is a cylindrical box three and a half inches in circumference and three and a half in length. The box is supplied with a double cover to insure the greatest protection to its contents. The outside cover overlaps the case; the inside cover screws itself into security by means of threads cut into a strip that is soldered in the inside of the case about three-quarters of an inch from the top. The edge of the inside cover is supplied with a narrow flange. When this cover is screwed into position this flange rests upon the strip and thereby doubly sealing the interior. The space between the covers measures half an inch. From the bottom of the case arises a stationary upright rod. This rod is flared out at the top so as to present a circular surface about three-quarters of an inch in diameter. From the center of this surface arises a short screw, and radiating in a crucial manner from the base of this screw are found square excavations to receive the ends of the frames that hold the spools. These frames are held in position, 1, by accurately fitting into the square excavation; 2, by being supplied with a small peg which fits into an aperture near the edge of the square excavation; 3, by being held in this square excavation by the impingement from above. This screw arising from the center of the disc surmounting the upright pole receives its mate, a form of thumbscrew, the bottom of which is flared out to correspond to the flared-out top of the central pole. From this, it is apparent that the purchase gained by this arrangement is similar to a vise in its method but far more effective in its mechanism. The frame that holds the reels are thus firmly held in position without the possibility of any wabble in any direction.

The spools slip into the slots with which the square frames are supplied. The spools are held in the slots by a very simple slide which when in position closes the opening of the slot and prevents the release of the spool.

In unreeling the material (catgut or silk) it is drawn through a V-shaped opening. The base of this opening is rounded, giving the effect of a circular aperture while the apex is drawn to a very slender point. While unreeling it is drawn through the rounded base and when a sufficient amount has been obtained it is drawn into the slender apex, where it is caught and prevented from falling away.

Societies.

Chickasaw (I. T.) Medical Association.—At the regular meeting held in Roff, Dr. Thomas S. Booth, Ardmore, was elected president, and Dr. Chivers, Ardmore, secretary.

The Fifth International Congress of Criminal Anthropology.—Professor Wertheim-Salmonson, of Amsterdam, is the general secretary of this Congress, which is to meet at Amsterdam, September 9.

Cumberland County (N. C.) Medical Society.—At the recent meeting of this Society at Fayetteville, Dr. Jacob F. Highsmith was elected president; Dr. Thomas D. Haight, vice-president, and Dr. John D. MacRae, secretary and treasurer.

Perry County (Ohio) Medical Society.—At the annual meeting of this Society, held in New Lexington, June 27, Dr. B. F. Callinan was elected president, Dr. B. A. Thomas, vice-president, and Dr. John G. McDougal, secretary and treasurer.

Dallas (Texas) Medical and Surgical Society.—At the recent meeting of this Society Dr. Edwin J. Reeves was elected president; Drs. Frank J. Hall and Elbert Dunlap, vice-presidents; Dr. Emil R. Aronson, secretary, and Dr. J. Wilbur Bourland, treasurer.

Williamson County (Tex.) Medical Society.—This Society was organized June 28, at a meeting held in Georgetown. The following officers were elected: President, Dr. George W. Foster; vice-presidents, Drs. J. C. Anderson and W. P. Masterson; secretary and treasurer, Dr. E. M. Thomas.

Utah County Medical Society.—At the regular annual meeting of this Society, held at Provo, Utah, June 26, the following officers were elected: Dr. George L. Smart, Springville, president; Dr. Samuel H. Allen, Provo, vice-president; and Dr. John H. Slater, Spanish Fork, secretary and treasurer.

Somerset County (Maine) Medical Association.—At the thirty-seventh annual meeting of this Association, held at Skowhegan, June 27, Dr. Elba C. Andrews, North Anson, was elected president; Dr. Warren G. Sawyer, Madison, vice-president; Dr. Howard C. Taggart, Skowhegan, secretary and treasurer, and for the board of censors, Drs. T. M. Griffin, Pittsfield, and L. D. Rand, Fairfield.

Elkhart County (Ind.) Medical Association.—At the meeting of this Association June 27, the following officers were elected: Dr. Charles M. Eisenbliss, Elkhart, president; Dr. Fred N. Dewey, Elkhart, vice-president; Dr. Chester W. Merrill, Goshen, secretary and treasurer, and Drs. Herbert O. Statler and Daniel L. Miller, Goshen, censors.

Upper Peninsula Medical Society.—The sixth annual meeting of this Society was held at Menominee, July 5-6, and Dr. Walter R. Hicks, Menominee, was elected president; Dr. Albert B. Simonson, Calumet, vice-president, and Dr. Samuel E. Cruse, Iron Mountain, secretary and treasurer. Ishpeming was chosen as the next place of meeting.

Rutland County (Vt.) Medical and Surgical Society:—This Society held its twenty-fifth annual meeting at Rutland, on July 2, and elected the following officers: President, Dr. William N. Bryant, Ludlow; vice-president, Dr. James M. Hamilton, Rutland; secretary, Dr. George Rustedt, Rutland, and treasurer, Dr. Edwin R. Clark, Castleton.

Sioux Valley Medical Society.—The regular semi-annual meeting of this Society was held in Sioux City, Iowa, beginning June 14 and ending June 28. It was decided that the Society should have an official journal in which its proceedings should be published. Dr. Gilbert G. Cottam, Rock Rapids, Iowa, was elected president; Drs. Frank A. Swezey, Wakonda, S. D., and F. E. Walker, Worthington, Minn., vice-presidents; Dr. Maxwell E. Silver, Sioux City, secretary; Dr. S. A. Brown, Sioux Falls, S. D., treasurer, and Drs. E. R. Buck, Hudson, S. D., C. C. May, Adrian, Minn., and Geo. C. Rubel, Allen, Neb., as the board of censors. The next meeting will be held at Cherokee, Iowa, in January.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Burns.

Inquiry: Please state what is meant by a burn of first, second and third degree, with treatment. H. H.

Burns are, for convenience, divided into three classes:

A burn of the first degree is one that produces redness of the skin without the formation of vesicles. The skin becomes a source of sensation of heat and burning. Burns ordinarily due to exposure to the sun's rays would come in this class.

In the second class, the skin must be exposed to a higher temperature and for a longer time and yet not sufficiently strong to destroy the texture of the integument. In this class vesicles are formed, after exposure for a few hours. These vesicles may be coalescent or discrete and when punctured, serum flows out.

In burns of the third degree the heat, in whatever manner applied, must produce a destructive effect upon the skin. The blood and lymph vessels are destroyed and a condition of gangrene is produced, and within a few days a ring of demarcation is formed, indicating the amount of skin destroyed. Consequently suppuration and sloughing take place, followed by granulations and formation of scar tissue.

Burns of the first class are usually treated by applying some sedative lotion. The following is of service:

℞.	Aquæ calcis		
	Olei olivæ, āā	℥i	32

M. Sig.: Apply on borated gauze.

Any application that will exclude the air is of service in relieving the itching and burning pain.

For the second grade, a great many dressings may be used, such as carbolized vaselin, ointments containing a large amount of boric acid, mild alkaline lotions, and when the blebs are very large, they may be punctured with an antiseptic needle, followed by the application of an antiseptic dusting powder, such as boric acid or subnitrate of bismuth. In order to exclude the air the following is recommended in the milder form:

℞.	Acidi salicylici	gr. xv	1
	Collodion (flexible)	℥i	32

M. Sig.: Apply locally on antiseptic cotton.

In the third grade, the danger of infection and consequent suppuration must not be overlooked. The antiseptic powders are of great service, such as iodoform, europhen and boric acid. Kaposi and Hebra give preference to continuous immersion of the part in water at a temperature most soothing to the skin.

Treatment of Dysentery by Lavage.

Dr. W. L. Braddon, as noted in *Jour. of Tropical Medicine*, offers the following conclusions, arrived at by the treatment of 170 cases: 1, that lavage or irrigation of the colon is the best method of treating dysentery; 2, the irrigation, to be effective, should be copious and frequent; 3, the most useful solution is one composed of a weak solution of boracic acid; 4, the use of astringents and antiseptics such as bismuth, Dover's powder and salol, is beneficial along with the flushings.

Treatment of Eczema.

The following is recommended by Brownlie, of Edinburgh, in treatment of eczema:

℞.	Ichthyol	ʒss	2
	Bismuthi subnitratis		
	Amyli, āā	ʒii	8
	Zinci oxidi	ʒi	4
	Petrolati q. s. ad	℥ii	64

M. Sig.: Apply locally once daily.

In cases of eczema occurring on the arms and legs he applied the following:

℞.	Resorcin	gr. x		66
	Hydrarg. ammoniati	gr. x		66
	Ichthyol	ʒi	4	
	Zinci oxidi	ʒii	8	
	Vaselini	ʒvi	24	
	Lanolini q. s. ad	℥ii	64	

M. Sig.: Apply locally twice a day.

Prof. L. D. Bulkley states that sometimes gelatin-glycerin preparations are of use in the treatment of eczema by forming a firm adherent coating on the part. The following is advised in certain conditions:

℞.	Gum tragacanthæ	ʒiiss	10	
	Gelatin	ʒii	8	
	Glycerini	ʒvi	24	
	Thymol	gr. 1/4		015
	Aq. destil., q. s.			

M. Soak the tragacanth and gelatin each in 10 oz. of water over a steam bath for twenty-four hours, strain and add water to 12 oz., then add the additional preparations.

Antisepsis in Gastro-Intestinal Disturbances.

Hare states that the most rational method of antisepsis is abstinence from food, followed by a diet of boiled or sterilized milk in small quantities. As an intestinal antiseptic he recommends the following:

℞.	Benzo-naphthol	gr. ii	12
	Bismuthi salicylatis	gr. v	30
	Resorcin	gr. ii	12

M. Ft. chart. No. i. Sig.: One such powder every three hours.

For antiseptic irrigation he recommends one of the following in the strength indicated:

Acidi borici	ʒii to Oi	8. to 512
Creolin	gr. vi to Oi	.25 to 512
Thymol	gr. vi to Oi	.25 to 512
Acidi tannici	gr. xxx to Oi	2. to 512
Acidi salicylici	gr. xv to Oi	1. to 512

The irrigations should be continued twice daily. If the number of stools should lessen or decrease in putridity and in the amount of mucus, the intervals between the irrigations should be lengthened.

Summer Diarrhea of Children.

In the treatment of diarrhea in infancy, the bowels should be emptied as thoroughly as possible. This can best be done by small doses of mild chlorid of mercury oft repeated, or by administering oleum ricini. It is advisable also to irrigate the lower bowel with a normal salt solution. The use of opiates should be avoided. To allay the irritation and to render the intestinal canal aseptic some one of the following prescriptions will render good service:

℞.	Bismuthi subnitratis	ʒi	4	
	Misturæ cretæ	℥ii	64	

M. Sig.: Shake; one teaspoonful every three or four hours.

The above combination is used when the stools are frequent, watery and sour smelling. *The following powder is of great value to produce astringent effect:*

℞.	Tannalbin	ʒi	4	
	Ichthoform	ʒss	2	
	Bismuthi subgallati	ʒss	2	

M. Ft. chartulæ No. xv. Sig.: One powder every four hours.

In the diarrhea of adults preparations of opium may be used where pain is present. The following is of service as a sedative and astringent:

℞.	Tannopin	ʒiss	6	
	Pulv. opii	gr. vi		36
	Salol	gr. xlviii	2	75
	Bismuthi subnitratis	ʒiss	6	

M. Ft. chart. No. xii. Sig.: One powder every four hours until diarrhea is checked.

Where there is marked disturbances of the stomach, lavage is of undoubted benefit. In infants, of course, this must be accomplished by using the proper sized tube or catheter. In adults the ordinary stomach tube should be introduced and the stomach washed out thoroughly. Sometimes one of the following antiseptic solutions can be advantageously used:

℞.	Sodii boratis	ʒii	8	
	Creolin	m. v		30
	Thymol.	gr. ii		12

M. Sig. Use in a quart of warm water once daily, first washing the stomach out with plain water.

Or:

℞.	Acidi borici			
	Sodii boratis, āā	℥ss	16	
	Acidi salicylici	ʒi	4	

M. Sig.: One or two teaspoonfuls to be added to a quart of warm water for lavage.

Gastric Ulcer.

Sir Lauder Brunton, in *Amer. Med.*, states that he can stop the pain in a large percentage of cases by the administration of sodium bicarbonate. He instructs the patient to dissolve one teaspoonful of the soda and slowly sip the solution until it is gone. He thinks it better to dissolve the soda in lime water, flavoring it with some of the mint waters. His reason for using lime water is that the sodium bicarbonate in plain water might soften the tissues to a great degree and thus predispose to hemorrhage. To lessen the constipation caused by the lime, fluid magnesia may be given in conjunction with the soda.

℞.	Spts. menthæ pip	ʒiss	6	
	Cretæ prep.	ʒss	2	
	Mag. carb. calcined			
	Sod. bicarb., āā	ʒi	4	

M. Sig.: One teaspoonful should be stirred in half a tumbler of water and slowly sipped until the pain is relieved.

Hot Alkaline Douches in Inflammatory *Diseases of the* Uterus.

Talley, as stated in *Mod. Med.*, obtains very satisfactory results from the employment of the hot alkaline douche in both acute and chronic inflammatory diseases of the uterus. The solution used is sodium bicarbonate, one dram to a quart of water. The temperature ranges from 110 to 120 F., beginning with the former temperature and gradually increasing it. The douche should be continued until the parts become blanched.

Medicolegal.

Impairment of Eyesight as a Total Disability.—The eyesight of a brakeman on a railway became so much impaired that he was discharged from his position, because of unfitness to longer properly perform the services required. He was at the time carrying a form of insurance which entitled him to an indemnity for a total disability defined to include the loss of the sight of both eyes or a disability of such a nature as to totally and permanently incapacitate him from the performance of duty in any department of the train or yard service. To prove that he was entitled to the indemnity, he introduced in evidence the rules of the railway company for which he worked as to physical examinations, which were the rules applied to him, and introduced evidence to show that many other roads required physical examinations. In permitting him to introduce in evidence the rules of that company, the Supreme Court of Iowa holds, Lillie vs. Brotherhood of Railway Trainmen, was no error. Nor was the court impressed favorably with the contention that, in order to recover the indemnity, he must first show by substantive proof that there was no railroad anywhere which would employ him in its train or yard service. On the contrary, it thinks that he made a prima facie case when he proved that the railway company for which he worked, as a measure of safety to him and others, discharged him on account of his disability. Indeed, it holds that the evidence offered to show his disability and its character was not only admissible but sufficient. It was shown that his eyesight was so impaired that he could not see signals at a reasonable distance, or distinguish colors, and the court says that, manifestly, these are deficiencies fatal to efficient service about moving trains. Again, it declares that, while no road could make an arbitrary rule, without foundation in reason, fixing a requirement for service that would affect the insurer's contract, yet such a disability as this, every-day experience teaches, would necessarily destroy one's ability to perform yard or train duties.

Can Collect Bill Without Recording Certificate.—Section 2624 of the General Statutes of Colorado reads: "Every person holding a certificate from the state board of medical examiners should have it recorded in the office of the clerk of the county in which he resides, and the record shall be endorsed thereon. Any person removing to another county to practice, shall procure an endorsement to that effect on the certificate from the county clerk, and shall record the certificate in like manner in the county to which he removes; and the holder of a certificate shall pay to the county clerk a fee of $1 for making the record." It will be observed that the section, if mandatory at all, the Court of Appeals of Colorado says, in Riley vs. Collins, is such only to the extent of requiring a record in the county where the physician resides. Then, even conceding that the certificate must be recorded there before services are rendered in order to entitle a physician to recover for same, the court points out that a want of compliance with this requirement would not appear simply from the fact that the certificate was not recorded in the county in which the services were rendered. It must further appear that the physician resided in that county; and this would be a matter of defense, properly to be established by the party sued, if it could avail at all. The most strained construction of the statute, the court continues, would nowhere indicate an intent on the part of the legislature to require a physician, if called into a county other than that of his regular residence, to first file in such county, and have recorded, his certificate or license, before he would be authorized to attend a case, or be permitted to recover for his services rendered. Such a construction, the court declares, would be absurd. Nor does it believe that the statute will bear being construed to make the recording of the certificate in the county of residence a condition to maintaining an action for services. The recording of the certificate, it says, is probably a reasonable requirement, so that the public might have an opportunity of ascertaining from an examination of the public records who were licensed to practice, and could also see whether the certificate was issued upon a diploma of a college—and, if so, of what college—or upon examination, or by reason of practice for a term of years. But, in the absence of a provision that this must be done before the holder of the certificate could practice, or could recover for services rendered, the court feels that it would be an unwarranted construction to so hold. The party who employs a physician is not wronged nor imposed upon by the failure to file if the physician holds the required certificate of qualifications. The authorities cited in support of a contrary view were based, so far as the court can ascertain from the opinions in the cases, upon statutes essentially different from that here under consideration, of which another section (2628) plainly says that the issuance of the certificate by the state board "shall be conclusive as to the rights of the lawful holder of the same to practice medicine in this state."

Negligence of Clerk Filling Prescription—Privilege.—The Supreme Court of Iowa has affirmed, in the case of Burgess vs. the Sims Drug Company, a judgment for $900 damages caused by alleged negligence in the filling of a prescription. The party who brought the action claimed that his eye was injured by lime falling into it while he was at work at his trade as a plasterer, and that the application to it of a preparation secured from the druggists sued, on a prescription, so aggravated the injury that its removal was necessary. The druggists contended that, having employed a skilful, registered pharmacist, they were not liable for his negligence, if any there was, in filling the prescription. Among the cases which they cited as illustrations were some in which it has been held that a railroad company contracting with an employe to furnish surgical aid in case of accident was not liable for the negligent acts of the surgeon thus selected and furnished, if due care and diligence were used in the selection. Those cases, however, the court does not think analogous. It says that it was the duty of the railroad company by express contract to secure for the other party professional services, which the railroad company did not hold itself out as competent to perform. The railroad company did not pretend to be a surgeon. But the parties here sued did pretend to be druggists, and held themselves out as able and willing to fill prescriptions. Whether they performed the services individually or by the aid of an employe was immaterial. The master who undertakes to perform a service is liable for the negligence of his servant in performing the service undertaken. True, the legislature has provided, as a police regulation for the protection of the public, that no one who is not a registered pharmacist shall fill prescriptions. But when these druggists undertook, as a part of their regular business, that the prescription should be filled, it was wholly immaterial to the customer, so far as their liability was concerned, the court holds, whether the prescription was filled by one of them or by an employe. In other words, it holds that they were not relieved of their responsibility as employers by the fact that they were required by statute to employ a registered pharmacist. The court also says in this case that it thinks there is no question but that the patient is privileged, under section 4608 of the Iowa Code, from disclosing communications made to his physician, although the statute does not so expressly provide. That is to say, it has no doubt that the statute was intended to extend to communications between patient and physician the same complete protection, not only as to physicians, but also as to the patient, which by common law was recognized in regard to communications between client and attorney. Moreover, while the patient may waive his privilege by himself testifying as to the subject-matter of the privileged communication, the court holds that for his testimony to constitute a waiver it must be voluntarily given. Therefore, testimony given on cross-examination will not have the effect of a waiver, although he might refuse to answer on cross-examination when asked with reference to a privileged communication, and did not refuse. Then, too, the court holds that any waiver resulting from the giving or introduction of testimony on a trial should be limited to that trial. Nor does it regard a communication made by the patient to a third party a waiver of privilege, when the matter comes up in court.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

American Medicine (Philadelphia), July 6.

1 *Experimental Yellow Fever. Walter Reed, James Carroll and A. Agramonte.
2 *A Medicolegal Aspect of Tuberculous Joint Disease. H. Augustus Wilson.
3 Three Distinct Consequences of Myocardian Degeneration Following Coronary Arteriosclerosis, Illustrated by Typical Cases. A. P. Ohlmacher.
4 Occlusion of the Vena Cava from Compression. Diffuse Cancer, Chiefly Abdominal. R. T. Edes.
5 *A Brief Note on Aspergillus Keratitis. James Moores Ball.
6 *The Therapeutic Value of Adrenalin Chlorid. Dudley S. Reynolds.
7 *Pilocarpin Hydrochlorate and Its Uses in Croup. S. E. Wertman.

Philadelphia Medical Journal, July 6.

8 Eye and Ear Examinations of Railroad Employees. Wm. Thomson.
9 *Dystocia from Coiling or Occlusion of the Umbilical Cord. Edward P. Davis.
10 *Empyema of the Frontal and Ethmoidal Sinuses and Orbital Abscess. Thomas R. Pooley.
11 *Spinal Anesthesia. Angus McLean.
12 *Report of a Lipoma Removed from the Cheek Under Medullary Narcosis. A. W. Morton.
13 *The Recognition of Early Symptoms Indicating Dangerous Forms of Insanity. W. K. Walker.

Medical News (N.Y.), July 6.

14 Practical Notes Relative to Rabies. N. G. Keirle.
15 *Actinotherapy in Cutaneous Medicine: A Preliminary Communication. William S. Gottheil.
16 *Ideals in Physical Education. D. A. Sargent.
17 The Early Operative Treatment of Acute Mastoid Inflammation. Edward B. Dench.
18 Salient Points in an Epidemic of Typhoid Fever, Based upon Fifty-five Cases. Wm. J. Crittenden.
19 *A Case of Lobar Pneumonia with Hyperpyrexia; Recovery. Wm. R. Williams.

New York Medical Journal, July 6.

20 *Chronic Fluorin Poisoning. Fritz Schwyzer.
21 *The Limitation of Drug Therapy. Robert H. Babcock.
22 *Remarks on Appendicular Abscess. Ramon Guiteras.
23 *An Improved Form of Ambulance Would Increase the Value of the Treatment of Heat Prostrations. Frederick Griffith.
24 *Porto Rico: Its Climate and Its Diseases. C. H. Alden.

Medical Record (N.Y.), July 6.

25 *Observations in China and the Tropics on the Army Ration and the Post Exchange or Canteen. Louis L. Seaman.
26 *The Place of Cereals in Infant Feeding. Henry D. Chapin.
27 *The Value of Local Sanatoria in the Combat of Tuberculosis in Large Centers of Population. S. A. Knopf.
28 *Observations and Remarks on Removal of the Gasserian Ganglion in the Cadaver. Robert F. Amyx.
29 Primary Carcinoma of the Tip of the Appendix; Primary Epithelioma of the Sphincter Muscle of the Bladder. J. Riddle Goffe.

Boston Medical and Surgical Journal, July 4.

30 *Medical Prospects. George E. Francis.
31 A City Isolation Hospital. May S. Holmes.
32 Report of a Case of Porro-Cesarean Section for Placenta Previa Centralis. W. J. Gillette.
33 Forced Flexion and Adduction in Cases of Extreme Sensitiveness of the Hip-Joint. E. H. Bradford.

Cincinnati Lancet-Clinic, July 6.

34 *Anal Pockets. Louis J. Krouse.
35 Lithemia. F. W. Gavin.

St. Louis Medical Review, July 6.

36 *Nephropexy: The Operation. W. B. Dorsett.
37 *Unusual Dosage of Diphtheria Antitoxin. H. L. Nietert.
38 *A Consideration of Some Methods of Treating Epilepsy. W. J. Alexander.

Northwestern Lancet (Minneapolis), July 1.

39 Ringworm. F. M. Archibald.
40 Complications of Diphtheria. H. K. Read.
41 Internal Medicine from the *Surgeon's Standpoint.* A. W. Abbott.

American Journal of Obstetrics (N. Y.), June.

42 *The Prevention of Post-Operative Adhesions of the Peritoneum. George Gray Ward, Jr.
43 *Intrapelvic Intravaginal Perineorrhaphy Without Loss of Tissue. A. Goldspohn.
44 *The Alum Enema in the After-Treatment of Abdominal Operations. Virgil O. Hardon.
45 Report of a Cesarean Section in a Case of Obliquely Contracted Pelvis. W. Reynolds Wilson.

46 Clinical Memoranda: 1. Partial Hysterectomy for Puerperal Sepsis. 2. Ovariectomy Complicated by Aneurysm of the Aorta. 3. The Repair of Lacerated Cervices After Labor. B. C. Hirst.
47 The Technique of Nephro-Ureterectomy. J. F. Baldwin.
48 Remarkable Condition of the Kidneys in a Woman Dead from Eclampsia Parturientium. Henry J. Kreutzmann.
49 Dermoid and Other Cysts of the Ovary: Their Origin from the Wolffian Body. Samuel W. Bandler.
50 An Improved Sims Speculum. B. Curtis Miller.
51 Amputation of the Thigh for Advanced Tuberculosis of the Knee-Joint; Osteomyelitis Involving the Superior Maxilla; Gonorrheal Synovitis of the Knee-Joint; Tubercular Coxitis. N. Senn.
52 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

Annals of Surgery (Philadelphia), July.

53 *Radical Cure of Inguinal and Femoral Hernia, with a Report of Eight Hundred and Forty-five Cases. William B. Coley.
54 *Two Cases of Ligation of the External Carotid for Severe Hemorrhage—One After Tonsillotomy, the Other After a Slight Intranasal Operation. William W. Keen.
55 *The Operative Treatment for Exstrophy of the Bladder. Frank Hartley.
56 *The Treatment of Fracture of the Neck of the Femur. John Ridlon.
57 *Wounds of the Venous Sinuses of the Brain. Henry R. Wharton.
58 Splenectomy in Splenic Anemia or Primary Splenomegaly. Malcolm L. Harris and Maximilian Herzog.
59 *The Best Incision in Operations for Mammary Carcinoma. William L. Rodman.
60 *Aneurysm of the Thoracic Aorta of Traumatic Origin; Treatment by Introduction of Wire and Electricity. DeForest Willard.
61 *Left Cecal Hernia, with a Report of Two Cases. John H. Gibbon.
62 *The Treatment of Suppurating Hematocele Due to Extra-uterine Pregnancy. George E. Shoemaker.
63 *The Mortality of Operation for Obstructive Jaundice. John B. Deaver.
64 Report of a Case of Recovery from Perforating Typhoid Ulcer of Intestine After Operation. William Jones.

Medicine (Chicago), July.

65 The Heart Lesions of Infancy and Childhood. I. A. Abt.
66 Mental Impressions as a Factor in the Treatment of Disease. J. G. Biller.
67 The Etiology of Acute Rheumatism. F. W. Mann.

Providence Medical Journal, July.

68 *The Yesterday and To-day of Mental Medicine. G. Alder Blumer.
69 Transient or Simple Glycosuria. Stephen A. Welch.
70 Endocardial and Exocardial Murmurs. George S. Mathews.
71 A Case of Removal of the Entire Upper Extremity for Recurrent Angiosarcoma. George D. Hersey. With a Pathologic Report. F. T. Fulton.
72 Etiology of Acute Peritonitis in Children, with the Report of a Case. Edmund D. Chesebro.
73 The Menopause: Natural and Artificial. Winthrop A. Risk.

Hot Springs Medical Journal, June.

74 Address of Welcome to the Arkansas Medical Society During Its Annual Meeting at Hot Springs, May 14, 15 and 16, 1901. Randolph Brunson.
75 On the Modern Treatment of Acute Gonorrhea. George K. Swinburne.
76 Chronic Gonorrhea. John Van Der Poel.

Denver Medical Times, June.

77 *The Influence of the Climate of Colorado on the Nervous System in Health and in Disease. J. T. Eskridge.
78 *Clinical Value of the Ehrlich Diazo Test. W. T. Little.
79 *The Treatment of Typhoid Fever, with Special Reference to the Intrarectal Injection of Normal Salt Solutions. E. Stuver.
80 Dry Heat in the Treatment of Disease. R. W. Corwin.

New Yorker Medicinische Monatsschrift, May.

81 Kraurosis Vulvæ. L. A. Ewald.
82 Beitrag zur Hæmophilia Neonatorum. J. G. Wm. Greeff.
83 Eine Verbesserte Beinprothese. C. H. Doerflinger.
84 Klimatische und Balneologische Curorte in Tyrol. Dr. Jur. Baumfeld

Canadian Journal of Medicine and Surgery (Toronto), July.

85 *On the Use of Nitrous Oxid and Ether as an Anesthetic. L. Coyteux Prevost.
86 *Some Practical Features in the Treatment of Consumption. Edward Playter.

American Medical Compend (Toledo), July.

87 The Myometrium: Its Anatomy and Physiology. Byron Robinson.
88 A Few Surgical Suggestions. A. F. McVety.
89 Some Points in the Use of *Diphtheria Antitoxin*. F. P. Minton.
90 Further Observations on the Therapeutic Action of Ergoapiol. D. E. Bowman.
91 Illustrations of Uterus. Byron Robinson.
92 Ergoapiol—(Smith)—as an Emmenagogue and Oxytocic. M. A. Auerbach.

Medical Examiner and Practitioner (N. Y.), June.

93 The Diagnosis of Heart Disease Considered in Its Relation to Life Insurance Examinations. Charles L. Greene.
94 Arteriosclerosis: The Greatest Foe of the Life Insurance Company. Talbot Jones.
95 Diabetes Mellitus: Its Relation to Life Insurance and Its Treatment. James H. Reed.
96 *Congestion of Population as Affecting the Death-Rate. J. E. Cowgill.
97 *The Environments of the Applicant. William W. Pennell.
98 *A Fallacy to Avoid When Using the Heller and Ferrocyanic Tests for Serum-Albumin. F. S. Grant.

Colorado Medical Journal (Denver), May.

99 *Diphtheria, and Treatment of Some of Its Phases. Wm. K. Robinson.
100 Suggestions to "The Country Doctor" as to How and Why He Should Equip Himself for Bacteriologic Work. H. G. Sigman.

Albany Medical Annals, July.

101 *The Pulmonary Form of Influenza. Howard Van Rensselaer.
102 *The Ocular Complications of Influenza. Charles H. Moore.
103 *Schools for the Insane. Francis M. Hamlin.
104 Report of a Case in Which a Scarf-Pin Was Swallowed and Passed Per Rectum on the Seventh Day. Edgar A. Vander Veer.

Journal of Mental Pathology (N. Y.), June.

105 Psychomotor Hallucinations in General Paralysis. A. Marie.
106 Clinical Researches in Circular Insanity. G. C. Ferrari.
107 Idiot and Imbecile Children. Louise G. Robinovitch.
108 Contribution to the Fissural Integrality of the Paroccipital; Observations upon One Hundred Brains. Edward Anthony Spitzka.
109 Suggestion During Natural Sleep. Paul Farez.
110 A Case of Verbal Blindness and Deafness and an Autopsy on the Body. Paul Serieux and F. Farnarier.

St. Louis Courier of Medicine, June.

111 A Case of Splenectomy, with Remarks. J. P. Bryson.
112 *The Diagnostic Value of Blood Examinations in Septicemia. J. C. Da Costa, Jr.
113 Some Sociologic Problems in Relation to Marriage, Crime, Insanity, etc. R. R. Kime.
114 Vaccination. Joseph Grindon.
115 The Technique and Use of Hypodermoclysis. Charles F. Hope.
116 A New Non-Surgical Treatment of Inflammatory Exudates and Their Residua in the Female Pelvis. Hugo Ehrenfest.
117 *On the Use and Abuse of Nasal Sprays. Dunbar Roy.

Atlanta Journal-Record of Medicine, June.

118 Excision in Tuberculosis of Joints—Hip and Wrist. Howard J. Williams.
119 Carbolic Acid Gangrene. W. H. Hudson.
120 The Baneful Effects and Curability of Catarrhal Inflammations of the Upper Respiratory Tract. Arthur G. Hobbs.

Nashville Journal of Medicine and Surgery, June.

121 Minor Surgical Cases as Met with by a General Practitioner. T. J. Happel.

Georgia Journal of Medicine and Surgery (Savannah), June.

122 The Microscope—Its Aid to the General Practitioner. R. H. McGinnis.
123 Acute Yellow Atrophy of the Liver, with Report of Case. T. E. Oertel.
124 Some Points in the Administration of Chloroform. T. M. McIntosh.
125 Inflammatory Diarrhea in Which in Addition to the Systemic Infection the Symptoms of an Acute Local Inflammation Have a Prominent Part—Acute Ileocolitis. W. E. Fitch and Harold L. Warwick.

The Laryngoscope (St. Louis, Mo.), June.

126 Some Critical and Desultory Remarks on Recent Laryngological and Rhinological Literature. Jonathan Wright.
127 A Congenital Deformity of Both Auricles. Henry L. Wagner.
128 *Auscultation of the Mastoid. Albert H. Andrews.
129 *The Importance of Preventing Chronic Suppurating Ethmoiditis by Prompt Local Treatment. Clarence C. Rice.
130 Report of an Intubation, with Complications. Joseph Mullen.
131 Atrophic Laryngitis. B. Tauber.

Vermont Medical Monthly (Burlington), June 25.

132 Tuberculosis and Legislation. Clark Bell.
133 Contribution on the Curing of Tuberculosis in Sanitaria. Prof. Schrotter.
134 Brief Notes on the Treatment of Rheumatism. P. F. Gardiner.

Canada Lancet (Toronto), June.

135 A Case of Deformed Legs. G. A. Bingham.
136 *The Drink Evil. Noah E. Aronstam.

AMERICAN.

1. **Experimental Yellow Fever.**—Reed, Carroll and Agramonte report cases of yellow fever experimentally produced by blood inoculation from other cases of the disease, showing that parasites are present in the blood during the early stages and that its passage through an intermediate host, though this is Nature's method, is not essential in the life cycle of the parasite. In this respect it is analogous to malarial fevers. All the cases, moreover, in cultures produced from the blood drawn from a vein immediately after injection or from the same syringeful of blood that conveyed the disease, failed to show the presence of Sanarelli's bacillus. In one case colonies of staphylococcus pyogenes citreus were obtained, and in the others no growth whatever. They also report a number of cases of mosquito inoculation, which are of interest in various respects. One point made is the length of time during which a mosquito may remain capable of conveying infection. The periods intervening between the contamination of the insect and the production of the disease were as much as 39, 51 and 57 days respectively. This explains the late appearance of the fever and the persistence of infection in infected houses is hereby accounted for. As regards the production of yellow fever by other species of culex than the fasciatus there was only one negative observation to record, to which they attribute no importance. Future observations will therefore be required for settling this question. Touching the subject of the possible transmission of the parasite to the daughter parasite by means of the ovum, they have also but a single observation, likewise negative. Their experiments confirm the statements of recent writers that the period of incubation of yellow fever does not usually exceed four or five days, but they also maintain that it may be prolonged more frequently perhaps than has been supposed. They also call attention to the importance of the milder cases of yellow fever. Cases that are not suspected of being subject to the disease may introduce it and failure to detect such is one of the most important factors in the development of the theory of propagation of this disease by fomites.

2. **Tubercular Joint Disease.**—Wilson calls attention to the necessity of the early diagnosis of tubercular bone disease and the necessity of the immobilization treatment of these cases. He says that, unlike acute inflammatory processes, tubercular ostitis demands for its recovery perfect fixation for a long time, and any attempts at movement, etc., to prevent stiffness will provide the very traumatism that is needed to maintain and increase the destructive processes. The loss of joint usefulness should never be considered as a necessary or unavoidable result of tubercular joint disease, but rather more correctly as evidence, 1, of failure in not having the attention of the physician sufficiently early; 2, in failure to reach a correct diagnosis; 3, in inappropriate forms of treatment or correct forms of inappropriate treatment. Anything like attempting to apply massage to prevent muscular atrophy or encouraging early use of the affected limb or attempting to prevent adhesions may be disastrous.

5. **Aspergillus Keratitis.**—Only eight or nine writers altogether have reported a total of less than a dozen cases of this condition. Ball reports an additional case and calls attention to the following points: 1, aspergillar keratitis is a more common disease than has been supposed by writers on ophthalmology: 2, intense pain in the eye, followed by the development of a brownish or black mass within the substance of the cornea are pathognomonic signs of aspergillar keratitis; 3, removal of the mass early in the case is followed by uninterrupted cure; 4, failure to recognize the condition and apply proper treatment is followed by sloughing of the cornea, and in some cases by loss of the eye; 5, in the few cases of keratomycosis aspergillina where cultures have been made, only aspergillus fumigatus has been found (Schanz).

6. **Adrenalin Chlorid.**—Reynolds summarizes some of the effects he has witnessed from the use of this drug as follows: 1. It is a powerful hemostatic and acts promptly, generally within a minute. 2. Its effects persist from twenty minutes to four hours. 3. It promptly relieves ciliary pain and all forms of keratitis, iritis, and even the cyclitis of glaucoma. 4. It reduces ocular tension in glaucoma, and apparently prevents hemorrhage in iridectomy. 5. It promptly clears up interstitial opacities of the cornea, following contusions, and seems to modify favorably opacities of punctate keratitis in syphilitic iritis. 6. In many cases it will so reduce the swelling in the tear passages as to allow a stream of fluid to pass from Anel's syringe through the duct, without the use of the probe. In a great variety of tinnitus aurium, prompt and sometimes lasting benefit follows the injection of a drop of adrenalin solution through the eustachian catheter, blown into the tympanic cavity. Several cases without serious impairment of hearing have been promptly relieved in this way. 7. In all forms of swelling of the nasal mucosa, prompt relief followed the application of 4 or 5 minims sprayed into the passage, opening the superior crypts and making access easy to the parts. It renders operations in these passages nearly or quite bloodless and does not predispose to secondary hemorrhage, but has the opposite effect. The 1 to 1000 solution of adrenalin in sodium chlorid may be relied upon to relieve any case of epistaxis. In secondary hemorrhage after operation in the nasal cavities or tonsils, application of adrenalin solution on a cotton mop pressed on the bleeding surface is a promptly efficient hemostatic. The adrenalin solutions are in every sense of the word superior to any preparation of suprarenal extract, or of the desiccated glands which he has been able to procure.

7. **Pilocarpin in Croup.**—Wertman has had several cases of croup or diphtheria where antitoxin seemed to fail and which were treated by him with small doses of pilocarpin hypodermically, which he here reports. He thinks the rapid results from this method in checking the disease and the absorption of the membrane are specially noteworthy. His extreme doses of antitoxin do not, however, seem as large as some would advise, as he mentions only 2000 units used in a fatal case.

9. **Coiling or Occlusion of the Umbilical Cord.**—Davis reviews the conditions of the cord that may occur imperiling the life of the child; or interfering with labor. These complications are of sufficient importance to call for prompt interference, and he gives a couple of illustrative cases. When the cord is coiled and it can not be uncoiled or stretched sufficiently to enable birth, it should be clamped and cut. Other subjects mentioned are knotting and prolapse of the cord and its occlusion, by bridles or adhesions, etc. A short cord may cause separation of the placenta and in one case mentioned there was umbilical hernia of the child, which, however, recovered. The treatment in these cases, the author advises, is first ascertaining the situation of the placenta before labor as nearly as possible, and by careful study of the fetal heart sounds, placenta and uterine bruits, the maternal aortic beat, etc., a murmur of the umbilical cord can be recognized. If this is clear it is evidence that the cord is coiled about the child. In the absence of murmur, tedious labor, recession of the presenting parts between the pains, ceasing or slowing of fetal movements, and the sensation of pain referred to the body of the uterus, form strong presumptive evidence that the cord is coiled about the fetus. The patient should be delivered as soon as possible and the use of forceps is advisable. When, however, the cord murmur is absent, if recession of the presenting parts and arterial hemorrhage between pains, pain in the uterus, uterine inertia, and delayed labor are present, a shortened cord is indicated, but the use of forceps is not necessary. The patient's labor pains should be stimulated, strength maintained, and the child delivered as soon as the head is born and the placenta removed as soon as possible. In knots or occlusion of the cord by amniotic adhesions, nothing can be done to save the life of the fetus and in the interest of the mother expulsion of the uterine contents should be hastened as soon as fetal death is diagnosed.

10. **Empyema of Frontal and Ethmoidal Sinuses.**—After reporting a case of empyema of the frontal and ethmoidal

sinuses and of orbital abscess, Pooley calls attention to the special points of interest: the sudden invasion of an acute exacerbation upon a chronic sinusitis of both frontal and ethmoidal sinuses with severe constitutional symptoms, viz., intense swelling of the lids, chemosis, exophthalmus, restricted movements of the eyeball, clearly pointing to the presence of orbital abscess in the cavity. This was undoubtedly induced by extension of the inflammatory processes in one or both sinuses and immediate surgical interference made imperative. Another interesting point is the apparent connection of the sinusitis with scarlet fever in the history of the case, and the neglect or rather insufficient treatment of the chronic process which caused the severe acute symptoms. Still another point is the complete and entire disappearance of numerous nasal polypi after the operation.

11. **Spinal Anesthesia.**—McLean has had experience with some twenty-five cases of spinal anesthesia and describes its symptoms and methods. The most annoying symptom following its use in his operations was the severe headache, somewhat relieved, however, by bromid, codein, etc. He has seen it follow when the precaution of removing, before injecting the cocain solution, an equal amount of cerebrospinal fluid was employed, thus keeping up the equilibrium of the fluid in the subarachnoid space. He finds it as difficult to select the patients that will react favorably under this method, as it is to select beforehand the cases which do well under general anesthesia. Some of the feeblest seem to have the least trouble from this method and some of the most robust suffer severely from its after-effects. He believes it will have a distinct position in surgery, but the boundaries of its domain have not yet been marked out. It can not supersede general anesthesia in all operations below the diaphragm until some technique or preparation of cocain has been found that will be followed by less distressing after-symptoms.

12. **Medullary Narcosis.**—Medullary narcosis is usually confined to operations below the diaphragm, but Morton reports a case of enormous lipoma of the cheek removed under anesthesia by this method, the injection being made in the second lumbar space with the needle pointing upward.

13. **Insanity.**—Walker calls attention to the importance of noticing the early symptoms of various forms of insanity, especially the dangerous ones, such as persecutory insanity, certain forms of alcoholic insanity, etc. He thinks the practical value of attention to these points is: 1. The prevention of mental disease in one predisposed by proper regulation of his life and placing the individual beyond the reach of diverting and disturbing circumstances. 2. In early placing him under the most favorable conditions, allowing his weakened cerebral centers to recuperate. 3. The better performance of our duty to society in more effectually preventing danger to the patient, property and others.

15. This article appeared in The Journal of July 6, p. 21.

16. **Physical Education.**—Sargent, who is a well known writer on subjects of physical culture, calls attention to the decay of certain forms of sports, the evils of setting up professional standards for amateurs, the tendency towards barbarism in certain games, which he does not specially deprecate, the need of more general physical training instead of encouraging special athletes and the danger of pushing special methods as ends in themselves, rather than as means toward improvement of the individual average man. We are not trying to make abnormal athletes, but to get the highest types of physical perfection in general, and in that we must be constantly on our guard to check abuses and restrain excesses.

19. **High Temperature in Pneumonia.**—In the case reported by Williams the temperature rose to 107.4 in the rectum on the second day and continued relatively high until the eighth day. The tongue throughout the disease was moist and but moderately coated; the stomach behaved well; constipation was constant; the heart action was much accelerated, but not alarming; the physical signs were those of consolidation and fibrinous pleurisy over the whole left lower lobe, and there was slight jaundice of the conjunctiva: but on the whole the symptoms were not such as would be alarming aside from the high temperature observed. The urine, however, contained large quantities of albumin and casts, continuing until the twenty-eighth day, but then became normal and so remained.

20. **Chronic Fluorin Poisoning.**—The object of this paper, as Schwyzer remarks, is to prove that fluorin salts may produce under certain conditions dangerous effects, and, therefore, should be used only with great precaution, and that they may have real dangers as food preservatives and therapeutic agents. He reports the case of a man who suffered from phlebitis and clots in the veins, of puzzling origin. Careful clinical observation, including urinary and blood examinations, detected uninuclear leucocytosis, greatly increased excretion of lime in the feces and urine, and pain in the bones; increased coagulation of the blood with a tendency to thrombosis and the presence of fluorin in the blood and urine. He sets down these indications with the detection of the substance as indications of chronic fluorin poisoning, attributing the rapid coagulation of the blood as a result of disturbed assimilation of lime and chlorin, while the uninuclear leucocytosis should be regarded as being caused by the presence of calcium fluorid in the bone marrow and spongiosa. There was an artificially produced leukemic condition of the blood. The only source of the fluorin that could be suspected was in the large quantities of beer which the patient took, always the same brand, from the same bottler. The beer was submitted to complete analysis. At first the researches were negative, but it was learned that fluorin combines with the glass of the bottle and produces fluorsilicum, which is precipitated on the inner surface of the bottle as a gelatinous substance. The beer was capable of etching glass by being evaporated in a glass dish. The treatment was the washing out with large quantities of water, care as to the excretion, especially the diuresis. The patient suffered from a spell of jaundice, which apparently seemed connected with the increased excretion of lime, forming concretions in the liver. At the time of reporting the patient was improved, but still only partially convalescent. The most important conclusion drawn by the author is that fluorin is capable of cumulative action in certain conditions. In small doses it is relatively harmless, but when it begins to accumulate in the body, continued administration is dangerous and its employment should be prohibited by law. This applies especially to beverages and food stuffs which are consumed regularly, such as beer, green vegetables, meat and milk. Schwyzer also suggests caution in the use of the numerous fluorin preparations which have been recommended for therapeutic purposes, especially in consumption, and there is no doubt in his mind that poisoning could also be produced by organic fluorin combinations if used too long. This is important as symptoms of fluorin poisoning are not very pronounced and it is difficult to detect the fluorin in the body. In conclusion he describes his method of determining coagulation of the blood, which is by means of a small capillary tube connected with a manometer and accurately constructed screw syringe. He considered coagulation is ended when the pressure of 3 c.c. of mercury does not move the blood column.

21. **Limitations of Drug Therapy.**—Babcock's article is a plea for simple methods of therapy, diet, etc. He calls attention to the distrust of medicine by the public as shown by the growth of such idiocies as "christian science," "Dowieism," etc., and this indicates a tendency which the medical profession should regard. The use of water is also specially mentioned and the need of healthy exercise, air, etc.

22. **Appendicular Abscesses.**—Guiteras reports a number of cases of appendicular abscess, several of them fatal; this, however, he remarks, is not the rule, but as such cases are more instructive they are reported. The abscesses he reports are not of the every-day type. He believes in operating at once in all appendicular abscesses and calls attention to the fact that the appendix may swing into various regions of the abdomen, according to its length and that of its mesentery;

that is, dislocating the abscess as it were, and no tenderness or swelling be revealed in the normal position. The question of counter-openings is also mentioned; he thinks the smaller the incisions and the fewer the number the better for the patient. In almost every case one incision is enough. There are, of course, cases where the abscess is in such a situation that drainage is not complete with one incision; a counter-incision may then be of assistance. As regards the removal of the appendix he thinks it may be said definitely that in all large abscesses no effort should be made to remove it, but in small recent ones or multiple abscesses of short duration it might be well to do so, if the condition of the patient is good. Care should be taken in all cases to avoid rough handling, as it may lead to serious consequences. The drain should be left in place for the first thirty-six to forty-eight hours. The diet should be fluid for the first week or as long as the temperature is above normal, the bowels be moved daily and in all cases a cautious prognosis should be given.

23. **Ambulances.**—Griffith suggests an improvement in ambulances for cases of heat prostration, such as have been so numerous of late. Linings of felt, asbestos, or fillings such as are used in refrigerator structures would mitigate the condition of the heated interior, which is not favorable to recovery of the patient transported.

24. **Porto Rico: Its Climate and Its Diseases.**—After giving the history and a general account of the island and its sanitary conditions, Alden notices the various diseases which occur there. Tropical anemia gives the highest death-rate and seems to be due to the ankylostomum duodenale, as shown by Ashford. Intestinal diseases are common; malaria of the milder types is frequent; yellow fever has been occasional, but not endemic and is not a serious disease in this locality. Malta fever he thinks is responsible for many cases of irregular fever that occur and is probably endemic in the island. Tuberculosis furnishes nearly 7 per cent. of the total deaths, with very little annual variation. Tetanus is frequent and fatal. Venereal disease is very common, and a large proportion of the lower classes are said to be subject to syphilis. Smallpox has been largely vaccinated out of existence since the American occupation. Cerebrospinal meningitis is a comparatively frequent condition, responsible for a considerable mortality. There are about 100 cases of leprosy, though elephantiasis, which is quite common, has often been mistaken for it. Sanitary conditions, etc., were in a very deplorable state when the island was taken possession of by the United States, but there is improvement already manifested.

25. See abstract in THE JOURNAL, xxxvi, p. 1722.

26. **Infant Feeding.**—The points made by Chapin in his discussion of the constitution of milk for infant feeding are: 1, that the chemical analyses of milk are not the only scientific basis of comparison; 2, that Nature adapts an animal's milk food to its digestive system; 3, that cow's milk and woman's milk are intended for different digestive systems; 4, that as cow's milk forms solid curds and woman's flocculent curds, the curd of cow's milk intended for an infant should be broken up mechanically; 5, that as cereal gruels mechanically break up the curds of cow's milk, and as infants are able to utilize them, their use is rational. He says it is often preferable to make the standard diluent of digestive gruels, as they not only break up the curds but furnish a certain amount of nourishment which is immediately available, taking the place of part of the soluble proteids and also form a satisfactory substitute for milk when it must be withheld for a few feedings. A great variety can be supplied to infants by means of digested gruels at a trifling expense and the tendency is always to get back to milk and not to keep on indefinitely with a diet of carbohydrates as with most infant foods used.

27. **Tuberculosis.**—Knopf pleads for the establishment of sanatoriums near large centers of population and points out how, even in smaller places, such sanatoriums might be profitable in prevention of the disease and rendering the patients again useful members of society. He also points out how these have a direct effect in reducing the consumption rate by the unconscious imitation of the cleanliness and sanitary precautions practiced in these institutions. This has been the effect in some German villages where sanatoriums are located.

28. **Gasserian Ganglion Operations.**—The method of removing the Gasserian ganglion is discussed by Amyx and he emphasizes certain points: 1. That careful resection of the ganglion from the dura and other contiguous structures must be made, the dissection being made upon the ganglion and its branches as much as possible. If we keep upon the ganglion and its structures there will be very little hemorrhage, whereas by working on the surrounding tissues hemorrhage will be profuse. 2. The ganglion must be dissected from its dural covering; the cavernous sinus, internal carotid artery, and the middle meningeal artery should be completely separated from the ganglion before any effort is made to evulse it. In his experience he has found it best to first divide the second and third branches, thus break through the trunk of the ganglion and pull it away from the cavernous sinus before any attempt is made to cut out the first branch of the ganglion. This procedure enables the operator to avoid the sixth nerve and the contents of the cavernous sinus. 3. The last consideration is hemorrhage. Packing has controlled the hemorrhage at all times in his experience, and in cases where he removed the ganglion himself the hemorrhage was practically nil. The ganglion was visible at all times and inspection of the middle fossa could be made to differentiate the tissues. Old age and arteriosclerosis favor hemorrhage, but in middle-aged and young persons little is met with.

30. **Medical Prospects.**—The subject of Francis' address is specialism, which he believes is likely to extend, but may not ultimately supplant the general practitioner; that specialism will increase and competition become more fierce, will, he thinks, be the case. That medical treatment will become more scientific and disease more effectively prevented; that hygienic agents will largely supplant drugs, all are strong probabilities. Very probably the family doctor is likely to be eclipsed for a time; perhaps to appear later in a more glorified aspect.

34. **Anal Pockets.**—These formations which appear only during life are claimed by Krouse to be nothing more than pouches and ridges mechanically produced, but which may be the cause of irritable ulcer by the hardened fecal masses tearing them out.

36. **Nephropexy.**—The operation suggested by Dorsett is admittedly a modification of Andrew's operation in which he sutured the fatty capsule to the true capsule of the kidney, to prevent any prolapse of the kidney in the fatty capsule itself. He thinks that a step farther might be taken, that is, to gather up a rim of the peritoneum around the margin of the kidney and draw it into the wound and attach it.

37. **Diphtheria Antitoxin.**—Nietert reports a case of diphtheria in a 21-year-old girl as of interest on account of the amount of antitoxin employed, 25,500 units having been given in eleven days. There was a streptococcus infection in addition to the diphtheria, which made the serum less effective. Venesection and transfusion were also used, and followed by rapid recovery, after opening of the small abscess which formed at the angle of the joint at the left side and which contained diphtheria bacillus.

38. **Epilepsy.**—The treatment of epilepsy suggested here is the Toulouse method, consisting in withholding of free salt from the food, the rationale of which is that bromin may be substituted for chlorin in the tissues. The results appear to be satisfactory in the cases in which the method was employed by the author.

42. **Post-Operative Peritoneal Adhesion.**—The means of prevention of this condition is summarized by Ward in the following: 1. The most perfect possible asepsis. The most rigid adherence to modern methods of securing surgical cleanliness. 2. Avoidance of all raw surfaces and pedicles by covering them with peritoneum or grafts of omentum and the abandonment of the ligature en masse. 3. Protection from

dry-air contact by the use of moist asepsis instead of dry asepsis, keeping exposed parts covered. 4. The time limit—rapidity of operation by technical skill, thorough preparation and trained assistants. 5. Keeping up the heat of the peritoneal cavity by frequent renewal of hot salt solution (115 F.) and by protection of exposed parts. 6. Avoidance of excessive manipulation by proper technique and ante-operative preparation, or posture. 7. Replacement of loops of intestine and omentum by filling the abdominal cavity with hot salt solution before closing, thus floating them, so that they can adjust themselves in their proper relations. 8. Encouraging free motion of the patient after operation instead of prohibiting it. 9. The early use of high enemas (during the first twelve hours) in conjunction with cathartics, and, on failure, the prompt use of oxygen in the Trendelenburg position.

43. **Intrapelvic Intravaginal Perineorrhaphy Without Loss of Tissue.**—The conclusions of Goldspohn's paper are: 1. The superficial muscles of the perineum, readily accessible *from its skin side, are too delicate and not located right to* furnish any such support as is demanded of the female pelvic floor. And since the skin and connective tissue composes the greater part of the triangular layers of tissue, which fills the space between the vaginal and rectal outlets to serve merely as a common fixation point for the various superficial muscles, no dependence for anything more than cosmetic considerations should be placed upon plastic operation that deal solely or chiefly with this so-called perineal body. 2. The levator ani muscle and the two layers of the deep pelvic fascia between which it is placed and by which it is influenced, are the potential elements in the true pelvic floor, as these structures lie within the pelvic cavity usually, not less than 2.5 centimeters from the outside skin, any actual or anatomically correct repairing of these must be done upon their inner surface, from within the pelvic lumen and beneath vaginal posterior and lateral walls. 3. The associated fascia of the levator ani should be, especially the recto-vesical fascia, our chief constant support of the internal organs and intra-abdominal pressure. Their action is intensified or assisted by contractions of the muscle periodically as required. Therefore, mere resection of the muscles of one or two sides of its longitudinal course and without uniting the two lateral portions of either or both of these structures, the median line in front of the rectum will, in all probability, be unable to subdue a well-developed rectocele completely or permanently, and also be incompetent to restore a sufficiently strong retentive pelvic diaphragm against forces from above. 4. These results, however, have been absolutely shown to result uniformly from a median approximation and union of the lateral halves of the levator ani and its fascia in front of the rectum and its posterior wall, temporarily detached and held out of the way. 5. In complete lacerations into the rectum, the rent in the bowel is first denuded by turning down a flap from its edge, and it is then sutured, the ends of the sphincter ani being dissected out and united. Its coaptation sutures are relieved of tension by a deeper tension suture. After this the vaginal portion of the operation follows in the usual manner.

44. **Alum Enemas.**—Hardon has found the use of alum enemas (an ounce to the quart of warm water injected into the rectum) always beneficial in promoting intestinal peristalsis in cases of post-operative paralysis of the intestine. The promptness and certainty of its action where other remedies fail is its special advantage and he offers it to the profession as a life-saving measure.

53. See Abstract in The Journal, xxxvi, p. 1583.

54. Ibid., p. 1803.

55. ***Exstrophy of the Bladder.***—Hartley's article gives a complete critical historical résumé of the surgery of exstrophy of the bladder. He does not seem to especially favor Maydl's operation, as conservatism in this condition is still a powerful factor. To relieve lateral traction Koch's suggestion as to osteoclasis in early life seems worthy of a trial and Küster's suggestion of closing in the bladder or penis after approximation of the bone by the above method seems the most rational. This method is confined to children under 6 years of age in whom the bladder is large, the diastasis of the pubic bone is slight, and in whom the apposition of the pubic rami may be secured previous to closure of the bladder. In older children and adults König's suggestion to divide the horizontal and descending rami of the pubic bone and to displace them to the median line, if it can be proven to be less fatal, seems to be the most promising for successful continence in the bladder. He thinks it should be given a further trial in children over 6 or 8 years with large bladder and moderate diastasis of the symphysis. Where the bladder is deficient, and in adults where it has become concentrically hypertrophied and the diastasis of the pubic bone has greatly increased, uretero-intestinal anastomosis, unless distinctly contra-indicated, is the operation of choice. In some cases where this is unadvisable, he would extirpate the bladder and anastomose the ureters and urethra (Sonnenberg). He reports the histories of 5 cases operated upon by him since 1888, in only two of which were the results satisfactory. His work ends with an extensive bibliography referred to in the text.

51 **Fracture of the Neck of the Femur.**—Ridlon's article is a résumé of the methods of treatment of fracture of the neck of the femur, with illustrations showing the apparatus and modifications recommended. The first consideration, he thinks, in these cases is to relieve the patient from suffering, which can be done best by replacing the fragments as completely as possible and retaining them by the completest possible fixation. The second consideration in old people who suffer from this accident is the use of such immobilization dressing as will least irritate the patient, favor cleanliness, *permit the use of the bedpan and turning of the patient in bed* without pain, for pain means the movement of the fragments on each other. The third consideration should be to continue the immobilization of the fracture and protection from all sensitiveness. The fourth consideration is to continue the treatment of the hip until the joint is sound as well as the fracture united.

57. See abstract in The Journal, xxxvi, p. 400.

59. Ibid., p. 590.

60. Ibid.

61. Ibid., p. 836.

62. Ibid.

63. Ibid.

68. **Mental Medicine.**—Blumer's article is an interesting *historic résumé of the advances made in mental medicine in* the past century. He quotes from various authorities showing the ideas extant at the beginning of the 19th century and the barbarous methods then used in the treatment of the insane. His article calls attention to the modern advances, our knowledge of the toxemic origin of many cases of insanity, certain points in regard to prophylaxis and the prospects as to the future elucidation of the pathology of this class of cases.

77. **The Climate of Colorado.**—The effect of the climate of Colorado on the nervous system is first noticed by Eskridge. He finds that no unpleasant effects are experienced by healthy individuals on first going to Colorado, if they do not attempt over-exercise. There is a sensation of well-being and stimulation, a tendency rather to be doing. There is stimulation also of the motor system, restlessness and a tendency to over-exercise, and this in turn leads to irritability. Many of the nervous symptoms, also, are due to suggestion. With healthy and acclimated persons, who become accustomed to the rarified air, sleep is generally easily obtained and more refreshing and stimulating. There seems, however, to be a greater tendency to produce nervousness and sleeplessness than at lower levels, and he is inclined to think there is some truth in the opinion that nervousness and insomnia are aggravated by prolonged residence, but he does not believe that mental or organic nervous troubles are specially encouraged. He finds that insomnia due to malnutrition in tuberculous

subjects is greatly relieved with improvement in the condition of the lungs, and nervous irritability also disappears as the general health improves. Mental depression in tuberculous subjects is more common than at the sea level. This is largely due to isolation and other environmental conditions. He asks: Is tuberculosis more likely to attack the nervous system in Colorado than at lower levels? He thinks this may be safely answered in the affirmative for adults, but in the negative for children. Hysteric subjects do better at the sea level than in Colorado. The same is true to some extent of the neurotic cases, of migraine and chorea. Epileptics and those who are nervous and impressionable from childhood are less favorable than at a lower level. Insanity is less frequent than in the Eastern states in proportion to the population. Maniacal conditions seem to be somewhat aggravated. He has not been able to observe any special difference in frequency, occurrence and results of organic nervous disease in Colorado and elsewhere.

78. **Ehrlich Diazo-Test.**—The test is described by Little, who finds it of value in typhoid and tuberculosis; in the latter disease its continued appearance warrants a fatal prognosis. In typhoid fever its absence or early disappearance are usually favorable signs, while its reappearance indicates relapse.

79. **Normal Salt Solution in Typhoid.**—Stuver calls particular attention to his method of injection of cold normal salt solution into the bowels in cases of typhoid fever, together with other methods which have been found of value in the treatment of the disease.

85. **Nitrous Oxid and Ether Anesthesia.**—Prevost gives his experience in tabulated form of the use of nitrous oxid and ether with special regard to the occurrence of albumin before or after anesthesia, and the occurrence of vomiting. He describes his method of the combined employment of the two agents and finds that the appearance of albumin is very little affected by the quantity of the ether or the duration of the anesthesia. The amount is always small and where albumin has existed before the anesthesia the condition has been by no means aggravated. He holds that with the present methods of general anesthesia cerebrospinal cocainization has not a very large place in surgery.

86. **Tuberculosis.**—The practical features mentioned by Playter are outdoor life, or practically the increased respiratory function, which can also be obtained by the practice of special lung-expansion. He thinks that in his own case one-half century ago, he learned the value of this method and improved under it so satisfactorily that for forty years he has invariably employed this super-respiration as a remedy in phthisis. Habitual deep breathing, night and day, of pure outdoor air is the first remedy. Ozonized air has been found in the Manchester Hospital for consumptives to give better results than any other such remedy tried there, and he expects to give this a trial. As regards sunlight and sunbaths he says he does not need to write. Respecting feeding he has a positive fear of stuffing. Early cases with little fever, where considerable exercise can be taken, may improve in spite of being stuffed. The assimulating power should be closely watched and studied. An increase in weight is not always a positive indication of improvement. He never aims to increase fat or flesh, but rather tone and strength, and the majority of his patients lose weight for a time with improvement of all other conditions. He speaks well of bovinine as a nutrient and of the value of temperate baths for promoting a healthy vigorous skin; a tuberculous patient can hardly be treated successfully without them. Other remedies mentioned are cod-liver oil, creosote given by inunctions most generally at bedtime, inhalants, etc. Most advanced phthisical patients need rest rather than exercise, though passive exercise given before bedtime is often useful and promotes sleep. Night sweats and chills soon subside with abundance of oxygen, and nausea and diarrhea usually with a judicious diet. For hemorrhages, absolute quiet, cool air and opium, if necessary, are usually sufficient.

96. **Congestion of Population as Affecting the Death-Rate.**—This paper is the second of a series of articles on death-rates as affected by occupation, locality, ratio of population, etc. The author gives tables showing the excessive death-rate in urban populations as compared with that in rural districts, showing an increase in the states where he has studied it from 16 to nearly 74 per cent. against the urban population. The average excess of death rates in cities over that in the country districts is nearly 50 per cent. We find, he says, however, some charged to congestion of population which to some extent are due to other causes, such as unhealthy occupation in the cities; he gives a table of various occupations with their death-rate in cities of 25,000 and in the remainder of the district, which shows a corresponding discrepancy. He asks: Why do life insurance companies pay so little attention to this matter, which is one of the greatest importance and which should receive more careful consideration?

97. **Environments of Applicants in Life Insurance.**—Pennell calls attention to the surroundings of the applicant as affecting the life risk and the little regard which has been paid to the matter by many life insurance companies. Not only the surroundings, but the natural disposition should be considered. The foolish dare-devil individual is necessarily a greater risk, no matter what his physical excellence may be, than a person of the opposite disposition.

98. **Serum Albumin Tests.**—Grant had occasion to renew his chemical supplies and purchased two three-ounce glass vials furnished with glass-ground stoppered pipettes, surmounted by rubber tips, in which he kept acetic and nitric acids. After having used them daily for a couple of weeks, he found that every specimen of urine submitted to the Heller and ferrocyanic test gave apparently an albumin reaction, though not under other tests, and on investigation it was found that the action of the acids upon the rubber tip produced this effect. He calls attention to the possibility of error and the necessity of keeping the acid from such contamination.

99. See abstract in The Journal, xxxvi, p. 756.

101. **Croup in Pneumonia.**—Van Rensselaer describes the characteristics of the pulmonary form of influenza, more especially the pneumonia which occurs in this condition. He finds while any single portion of the respiratory tract may be primarily and exclusively affected, as a rule, the inflammatory process is a progressive one and extends over several. The common catarrhs of the nasal and contiguous cavities are first noticed. The larynx appears to him to be more commonly involved than supposed, though its involvment is frequently overlooked. The tracheal and bronchial inflammations are most frequent and perhaps the best known of influenzal processes, while pneumonia is the most frequent and important complication, and usually the one that causes death. True influenzal pneumonia is a catarrhal or bronchial pneumonia in which the influenzal bacilli are in pure culture; yet there are many cases of the ordinary croupous variety excited by the diplococcus lanceolatus and a proportion of cases where there is a streptococcus or staphylococcus mixed infection. Grassberger has found the staphylococcus aureus seems to favorably excite the growth of the influenzal bacillus. At the bedside, however, it is often impossible to distinguish these different inflammatory processes. The onset varies considerably: sometimes the pneumonia appears to be primary; but far more often the symptoms of influenza precede and the pneumonia may often seem to first develop during the convalescence. The physical signs may be indistinct and the symptoms of apparent dulness be easily overlooked. Sometimes there is no absolute dulness during the entire progress of the disease. There is a lobular tendency to pneumonia in these cases, but it rapidly extends from one lobule to another. The progress may be very slow, rapid or intermittent. Instead of the pneumonia flush there is often a flush that spreads over the forehead and about the nose and eyes. Profuse sweating from almost the beginning of the disease is another striking difference between it and the ordinary pneu-

monia. Convalescence may be slow. The height of the pyrexia often bears no relation to the inflammatory process or its severity. The resolution may be incomplete and sometimes so prolonged that it closely resembles tuberculosis, especially if the disease is in the upper lobe. Repeated examination for tubercle bacilli is advisable, especially where there is a tuberculous tendency. The mortality of consumption is greatly increased during influenza epidemics, and consumptives who contract la grippe, as Leichtenstern says, frequently get a pneumonia, though it is rare in other conditions.

102. **The Ocular Complications of Influenza.**—The literature of the eye conditions in la grippe are reviewed by Moore, who summarizes in the following conclusions: 1. Many cases reported due to influenza may be dubious as regards that etiologic factor. 2. The nervous apparatus of the eye is specially liable to become involved, as the infection of influenza produces a toxin which is a selective cause of nervous symptoms. 3. The ocular manifestations are usually first influenzal. 4. The complications of metastatic or embolic processes are usually severe and detrimental to the integrity of the eye. Aside from this the prognosis of these influenzal complications is usually good with care and attention.

103. **Schools for the Insane.**—The method of conducting schools in asylums for the insane is described by Hamlin, who points out that the idea is not imparting of instruction as much as encouraging self-control and proper concentration of thought. He gives the methods which are, of course, quite different from other schools, consisting in singing, reading the news of the day, with comment and remarks, excluding only arguments on religion and politics; talks on natural history, customs, etc. He remarks on the curious general forgetfulness as to facts manifested by the insane. As regards the benefit from the schools he gives one or two striking instances. It seems to give the patients self-confidence and self-respect and bring them out of their morbid ideas in suitable [illegible]es.

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136. **The Drink Evil.**—Aronstam and Rosenberg give a discussion of the bio-pathologic and legal aspects of drunkenness. They advocate controlling measures for the sale of liquor as follows: 1, moral qualifications for licensees; 2, limit as to their number, granting no new license until a vacancy has occurred; 3, liability and damages for all injuries. The saloonkeeper should be pecuniarily liable to the parents and guardians for the minor, and to wife and family of the man; 4, rules for the sale of liquor: no one should be allowed to sell liquor in conjunction with other business, nor be permitted to sell to aliens, minors, women and habitual drunkards; nor on any holiday, and on no day later than 11 p. m.; 5, a special tax should be put upon all manufacturers and vendors to defray the expenses of asylums built for the treatment of alcoholics and dipsomaniacs. These measures, if followed, they believe, would do much good.

FOREIGN.

British Medical Journal, June 29.

Clinical and Experimental Observations Upon General Paralysis. Lewis C. Bruce.—From observations on patients in the progressive stages and in the condition of remission, Bruce finds evidence of gastro-intestinal disturbance, which he considers directly connected with the pathology of the disease. He has examined the blood in these cases and found during the actively progressive periods a leucocytosis, together with the presence of bacteria in one case, resembling the bacillus coli. During the remissions the leucocytosis falls to that of ordinary health. Nature apparently checking the disease and producing remissions by first producing a hyper-leucocytosis, as he theorizes, and the leucocytes in their turn producing something like antitoxin in the blood, which protects the patient for a limited time against further action of the toxin. He comes to the conclusions that the majority of cases of general paresis are due to bacterial toxins absorbed through the stomach and intestines and that each febrile attack represents the actual entrance of bacteria and their toxins into the blood or tissues of the patients, and that during the periods of remission the blood must possess some antitoxic substance. He,
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2. The toxins are mainly bacterial and are formed in consequence of a partial break-down of those forces by which the harmful development of the micro-organisms that constitute the ordinary flora of the alimentary tract is normally prevented. 3. The toxins are absorbed and tend especially to produce proliferative and degenerative changes in the vessels of the central nervous system. 4. These vascular changes tend to set in earliest in those parts of the brain that are relatively best supplied with blood, because their walls are brought in contact with the largest quantity of toxins. 5. Tabes dorsalis is dependent upon the same form of toxemia. 6. The part played by syphilis in the pathogenesis of general paralysis and tabes dorsalis is essentially that of altering the natural immunity. 7. There is some evidence in favor of the hypothesis that this alteration in the natural immunity is dependent upon the commencing exhaustion of the leucoblastic function of the bone marrow. 8. The treatment of general paralysis and tabes dorsalis should be directed primarily to the correction of the disorder of the alimentary tract. 9. Probably the only means by which it will be found possible to check the excessive growth of the gastro-intestinal bacteria is that of the employment of specific antitoxins. 10. To arrest the disease by such means may be more practicable than would at first sight appear, because it is probable that the specially injurious toxins are the products of only a few bacterial forms.

An Experimental Inquiry Into the Pathology of Gastric Tetany. W. D. Halliburton and John S. McKendrick.—A case of gastric tetany, or tetany associated with gastric dilatation, forms the subject of the investigation of the authors. They made experiments with the gastric contents prepared by being treated with rectified spirit; the filtrate evaporated several times and finally a solution made after the last filtrate. injecting the matter into animals and testing the blood pressure in each case. It appears from three experiments made that the tetany fluid contains substances much more poisonous than hydrochloric acid itself, which was used as a control test. They supplemented their researches by injecting into an animal the gastric contents obtained from patients in health or suffering only from mild dyspepsia in the same manner and observed the results. The only plausible theory they find, which the experiments support, is that of auto-intoxication. The poisonous substance is formed in the stomach, which absorbed in the blood stream in sufficient amounts must give rise to tetanoid contractures and their well-known symptoms of disease. They find the toxic substance existing in the stomach of the case under consideration, which injected into the animal produces a marked fall of blood pressure and slowing of the heart beat. This substance was not present in the normal gastric contents of health and, moreover, after the neutralization of the tetany fluid, practically no fall of pressure was obtained. What this toxic substance is they can not say. It has a marked acid reaction and it is soluble in alcohol and in normal saline solution. By its injection into animals it causes either direct or reflex excitation of the cardio-inhibitory center. It is, therefore, probable that other centers in the brain and cord are likewise similarly affected.

The Lancet, June 29.

The Practical Points in the Treatment of Threatened Asphyxia. Robert L. Bowles.—The author finds, according to his examination, that in cases of drowning in man, water does exist in the lungs, and is effectually expelled only very gradually and after a long time; and that it is absolutely impossible to produce relief in such a case by the Sylvester method only. He says it would be better to let the patient lie on one side and trust to Nature, rather than to have recourse to measures which would cause the forcible inspiration of air before evacuation of water had been sufficiently effected. Artificial respiration, valuable as it is, if injudiciously employed, becomes really a source of increased danger; therefore, the Marshall Hall method should be preferred.

Intestinal Suture by Means of Continuous Catgut Stitch and Excision of the Mucous Membrane. H. Littlewood.—The methods employed by the author are given as follows: "The abdomen is opened in the middle line, a suitable portion of the stomach is selected—either the anterior or posterior wall—and a loop of jejunum. These are now emptied and clamped by means of Doyen's pedicle forceps, the blades of which are covered with India-rubber tubing, and are held by an assistant so that the portions of the stomach and bowel to be operated on are in close apposition. The parts are surrounded with strips of gauze or flat swabs. An incision about one and one-half inches in length is now made into the stomach and bowel through all the coats down to the mucosa, and then with a pair of ophthalmic scissors and forceps the coats all around are separated from the mucosa for a short distance, so that a broad surface of all these coats may be brought into contact. The posterior edge of the stomach incision is now stitched to its full extent to a similar portion of the bowel with chromic gut by means of a small curved Hagedorn needle. The suture is knotted at both ends and left long. An elliptical portion of the mucous membrane is now excised from the stomach and a similar portion from the bowel, and the parts are cleansed. The cut edges of the mucous membranes are now stitched the whole way round by a continuous stitch of catgut, knotting it at the two extremities of the openings so as to prevent its drawing too tightly and narrowing the opening. This done, the anterior edges of the incisions into the stomach and bowel through the remaining coats are united by a continuous stitch, the same suture which was left long after uniting the posterior edges. I am not careful to bring serous coat to serous coat, but I rather prefer to bring the deeper layers into apposition. The clamps are then removed. As a rule there is no bleeding—the stitches preventing this. It is important not to pull the stitches too tightly. The gauze is removed and the abdomen is closed. The actual cutting and stitching can easily be done in from 10 to 15 minutes." In doing enterectomy he performs a very similar operation. The parts to be excised are clamped above and below with Doyen's clamps and removed with scissors. A portion of the mucous membrane is excised so that it retracts beyond the cut edges of the other coats, leaving a good broad surface for stitching. The two cut ends are approximated by the clamps and are then closed by continuous catgut stitches in the same way as for gastroenterostomy. Half the lumen, consisting of all the coats, with the exception of the mucosa, is first stitched and fastened, then the mucous membrane the whole way round, interrupting and knotting the stitches in two places. Finally the remainder of the coats are sutured. The clamps are removed and the cut surfaces of the mesentery are approximated by interrupted sutures. The long handles of the clamps enable them to be held in such a manner as to be well away from the field of operation.

Are Not Some Patients Said to be Afflicted with Gastric Ulcer Really Suffering from a Different Disease? W. Hale White.—The author suggests that there is a disease met with chiefly, or perhaps only, in women between 20 and 40 years old, having as its chief symptoms gastric pain, nausea, sickness and hematemesis not dependent upon ulceration of the stomach, any such that is present being quite superficial and no more than might occur secondarily to hemorrhage. In spite of serious gastric symptoms extending over years the patient is not wasted, has been or is often chlorotic and has none of the mechanical effects of gastric ulcer, such as adhesions, pyloric stenosis, or subphrenic abscess. The prognosis is good, though relapses are frequent. He thinks that now since surgeons are opening the stomach for severe bleeding, he finds the existence of this condition which he has long suspected, being confirmed. The operators are already becoming accustomed not to find ulcer even after severe hemorrhage. He calls attention to the literature in support of his view and suggests that this disease may be like chlorosis associated with the period of high sexual activity in women, and hematemesis may have something to do with vicarious menstruation. He calls attention to the importance of separating gastric ulcer from this disorder, and rather deplores operation in these cases.

Bulletin de la Soc. des Hop. de Paris, June 13.

Technique of Cytodiagnosis. Dupré.—The cerebrospinal monia. Convalescence may be slow. The height of the pyrexia often bears no relation to the inflammatory process or its severity. The resolution may be incomplete and sometimes so prolonged that it closely resembles tuberculosis, especially if the disease is in the upper lobe. Repeated examination for tubercle bacilli is advisable, especially where there is a tuberculous tendency. The mortality ot consumption is greatly increased during influenza epidemics, and consumptives who contract la grippe, as Leichtenstern says, frequently get a pneumonia, though it is rare in other conditions.

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117. **Nasal-Sprays.**—The utility of nasal sprays for their cleansing, stimulating and soothing effects are first noticed. Their abuses, as given by Roy, consists in their too general employment, encouragement of the spray habit, and the excessive force with which they are sometimes used. He thinks it is almost criminal to employ a cocain spray in the nose, especially in chronic cases.

128. **Mastoid Auscultation.**—Andrews reports his method, which he had previously published, of mastoid auscultation, pointing out the possibility of varying results that may be found by other observers according to the instrument which may be used. The principles underlying the method of examination and on which the conclusions are based, are the greater the density of the mastoid, the greater will be its sound-conducting power. The more nearly uniform the media, the same will be the case; and solid media of the same density transmit sound waves, within certain limitations, in proportion to their relative thickness. He does not think the method will take the place of other methods of examination, but believes it is an additional aid to the diagnosis where local symptoms are not clearly defined. Five cases are reported.

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Clinical and Experimental Observations Upon General Paralysis. Lewis C. Bruce.—From observations on patients in the progressive stages and in the condition of remission, Bruce finds evidence of gastro-intestinal disturbance, which he considers directly connected with the pathology of the disease. He has examined the blood in these cases and found during the actively progressive periods a leucocytosis, together with the presence of bacteria in one case, resembling the bacillus coli. During the remissions the leucocytosis falls to that of ordinary health. Nature apparently checking the disease and producing remissions by first producing a hyper-leucocytosis, as he theorizes, and the leucocytes in their turn producing something like antitoxin in the blood, which protects the patient for a limited time against further action of the toxin. He comes to the conclusions that the majority of cases of general paresis are due to bacterial toxins absorbed through the stomach and intestines and that each febrile attack represents the actual entrance of bacteria and their toxins into the blood or tissues of the patients, and that during the periods of remission the blood must possess some antitoxic substance. He, therefore, placed two progressive cases of paresis in bed and injected subcutaneously 2 c. c. of defibrinated blood taken from a patient in the stage of remission, daily for three weeks. The first patient became so much improved as to be taken out by his friends and though still mentally damaged and with some of the motor symptoms of the disease, is able to work at his trade and support himself. The other case has shown physical improvement, but no mental change, but the progress of the disease seems to be arrested. He has experimented with the agglutinative power of blood serum of paretics upon the bacillus coli, which he believes is a producer of the toxins causing the disorder and finds agglutinative action present in 70 per cent. of the serums of patients taken during remissions of the disease.

Observations Bearing Upon the Question of the Pathogenesis of General Paralysis of the Insane. W. Ford Robertson.—The author continues the subject of general paralysis, arguing for the views that are expressed in the following conclusions: 1. General paralysis is dependent upon the occurrence of a chronic toxemia of gastro-intestinal origin.

2. The toxins are mainly bacterial and are formed in consequence of a partial break-down of those forces by which the harmful development of the micro-organisms that constitute the ordinary flora of the alimentary tract is normally prevented. 3. The toxins are absorbed and tend especially to produce proliferative and degenerative changes in the vessels of the central nervous system. 4. These vascular changes tend to set in earliest in those parts of the brain that are relatively best supplied with blood, because their walls are brought in contact with the largest quantity of toxins. 5. Tabes dorsalis is dependent upon the same form of toxemia. 6. The part played by syphilis in the pathogenesis of general paralysis and tabes dorsalis is essentially that of altering the natural immunity. 7. There is some evidence in favor of the hypothesis that this alteration in the natural immunity is dependent upon the commencing exhaustion of the leucoblastic function of the bone marrow. 8. The treatment of general paralysis and tabes dorsalis should be directed primarily to the correction of the disorder of the alimentary tract. 9. Probably the only means by which it will be found possible to check the excessive growth of the gastro-intestinal bacteria is that of the employment of specific antitoxins. 10. To arrest the disease by such means may be more practicable than would at first sight appear, because it is probable that the specially injurious toxins are the products of only a few bacterial forms.

An Experimental Inquiry Into the Pathology of Gastric Tetany. W. D. Halliburton and John S. McKendrick.—A case of gastric tetany, or tetany associated with gastric dilatation, forms the subject of the investigation of the authors. They made experiments with the gastric contents prepared by being treated with rectified spirit; the filtrate evaporated several times and finally a solution made after the last filtrate. injecting the matter into animals and testing the blood pressure in each case. It appears from three experiments made that the tetany fluid contains substances much more poisonous than hydrochloric acid itself, which was used as a control test. They supplemented their researches by injecting into an animal the gastric contents obtained from patients in health or suffering only from mild dyspepsia in the same manner and observed the results. The only plausible theory they find, which the experiments support, is that of auto-intoxication. The poisonous substance is formed in the stomach, which absorbed in the blood stream in sufficient amounts must give rise to tetanoid contractures and their well-known symptoms of disease. They find the toxic substance existing in the stomach of the case under consideration, which injected into the animal produces a marked fall of blood pressure and slowing of the heart beat. This substance was not present in the normal gastric contents of health and, moreover, after the neutralization of the tetany fluid, practically no fall of pressure was obtained. What this toxic substance is they can not say. It has a marked acid reaction and it is soluble in alcohol and in normal saline solution. By its injection into animals it causes either direct or reflex excitation of the cardio-inhibitory center. It is, therefore, probable that other centers in the brain and cord are likewise similarly affected.

The Lancet, June 29.

The Practical Points in the Treatment of Threatened Asphyxia. Robert L. Bowles.—The author finds, according to his examination, that in cases of drowning in man, water does exist in the lungs, and is effectually expelled only very gradually and after a long time; and that it is absolutely impossible to produce relief in such a case by the Sylvester method only. He says it would be better to let the patient lie on one side and trust to Nature, rather than to have recourse to measures which would cause the forcible inspiration of air before evacuation of water had been sufficiently effected. Artificial respiration, valuable as it is, if injudiciously employed, becomes really a source of increased danger; therefore, the Marshall Hall method should be preferred.

Intestinal Suture by Means of Continuous Catgut Stitch and Excision of the Mucous Membrane. H. Littlewood.—The methods employed by the author are given as follows: "The abdomen is opened in the middle line, a suitable portion of the stomach is selected—either the anterior or posterior wall—and a loop of jejunum. These are now emptied and clamped by means of Doyen's pedicle forceps, the blades of which are covered with India-rubber tubing, and are held by an assistant so that the portions of the stomach and bowel to be operated on are in close apposition. The parts are surrounded with strips of gauze or flat swabs. An incision about one and one-half inches in length is now made into the stomach and bowel through all the coats down to the mucosa, and then with a pair of ophthalmic scissors and forceps the coats all around are separated from the mucosa for a short distance, so that a broad surface of all these coats may be brought into contact. The posterior edge of the stomach incision is now stitched to its full extent to a similar portion of the bowel with chromic gut by means of a small curved Hagedorn needle. *The suture is knotted at both ends and left long. An elliptical* portion of the mucous membrane is now excised from the stomach and a similar portion from the bowel, and the parts are cleansed. The cut edges of the mucous membranes are now stitched the whole way round by a continuous stitch of catgut, knotting it at the two extremities of the openings so as to prevent its drawing too tightly and narrowing the opening. This done, the anterior edges of the incisions into the stomach and bowel through the remaining coats are united by a continuous stitch, the same suture which was left long after uniting the posterior edges. I am not careful to bring serous coat to serous coat, but I rather prefer to bring the deeper layers into apposition. The clamps are then removed. As a rule there is no bleeding—the stitches preventing this. It is important not to pull the stitches too tightly. The gauze is removed and the abdomen is closed. The actual cutting and stitching can easily be done in from 10 to 15 minutes." In doing enterectomy he performs a very similar operation. The parts to be excised are clamped above and below with Doyen's clamps and removed with scissors. A portion of the mucous membrane is excised so that it retracts beyond the cut edges of the other coats, leaving a good broad surface for stitching. The two cut ends are approximated by the clamps and are then closed by continuous catgut stitches in the same way as for gastroenterostomy. Half the lumen, consisting of all the coats, with the exception of the mucosa, is first stitched and fastened, then the mucous membrane the whole way round, interrupting and knotting the stitches in two places. Finally the remainder of the coats are sutured. The clamps are removed and the cut surfaces of the mesentery are approximated by interrupted sutures. The long handles of the clamps enable them to be held in such a manner as to be well away from the field of operation.

Are Not Some Patients Said to be Afflicted with Gastric Ulcer Really Suffering from a Different Disease? W. Hale White.—The author suggests that there is a disease met with chiefly, or perhaps only, in women between 20 and 40 years old, having as its chief symptoms gastric pain, nausea, sickness and hematemesis not dependent upon ulceration of the stomach, any such that is present being quite superficial and no more than might occur secondarily to hemorrhage. In spite of serious gastric symptoms extending over years the patient is not wasted, has been or is often chlorotic and has none of the mechanical effects of gastric ulcer, such as adhesions, pyloric stenosis, or subphrenic abscess. The prognosis is good, though relapses are frequent. He thinks that now since surgeons are opening the stomach for severe bleeding, he finds the existence of this condition which he has long suspected, being confirmed. The operators are already becoming accustomed not to find ulcer even after severe hemorrhage. He calls attention to the literature in support of his view and suggests that this disease may be like chlorosis associated with the period of high sexual activity in women, and hematemesis may have something to do with vicarious menstruation. He calls attention to the importance of separating gastric ulcer from this disorder, and rather deplores operation in these cases.

Bulletin de la Soc. des Hop. de Paris, June 13.

Technique of Cytodiagnosis. Dupré.—The cerebrospinal fluid is drawn into a tube and immediately centrifugalized for ten minutes with 2500 turns a minute, then carefully decanted. The centrifugalized coagulum is then spread on the plate fixed with alcohol-ether and stained with hematoxylin-eosin, Unna's blue, or Ehrlich's triacid.

Staphylococcus Septicemia. G. ETIENNE.—The septicemia may develop in an acute, a rapid or a protracted form. There is no specific symptom and the symptomatology is about the same for each variety, the extreme prostration and sunken eyes suggesting the second week of typhoid fever, respiration and pulse superficial and rapid, the contractions of the heart irregular and exaggerated, the sounds muffled, sometimes vomiting and fetid diarrhea, but usually the stools are formed. The spleen and liver may be hypertrophied. In a few days the patients look as if they were in the last stage of consumption. If they recover, convalescence is long and tedious. A streptococcus septicemia of such severity is invariably fatal.

June 20.

Purulent Pleurisy Tolerated for Forty Years. FAISANS.—At the autopsy of a man 55 years of age, a very old, purulent, pleuritic effusion was found which dated from his fifteenth year. Nearly 3.5 liters of pus had been enclosed in the indurated pleura, which was cartilaginous or bony where it was in contact with the ribs. Notwithstanding this purulent accumulation the subject had lived like other people, served his term in the army and died finally with an alcoholic liver cirrhosis. When admitted to the hospital for the latter disease the physical signs in the thorax suggested a pleuritic effusion, and a liter of pus was withdrawn. This proved a blunder as the long established equilibrium was destroyed by this measure, and congestion, hemoptysis and intense hyperemia rapidly followed, terminating in fatal asphyxia. Faisans warns that it is better to leave an old pleuritic effusion alone as long as it does not threaten suffocation. In case of serious interference with the respiration, an exploratory capillary puncture should be made and if the fluid is found to contain granulations and fat, with cholesterin crystals, empyema should be avoided and merely a small amount of the fluid withdrawn to ward off dyspnea. Non-intervention is much less dangerous than intervention in these cases. A recent effusion should be operated on as soon as possible; but an old effusion, with the lung fastened by adhesions, should be respected and left untouched unless absolutely necessary.

Tubercles of the Cerebellum. P. MERKLEN.—Headache on effort, with rigidity of the back of the neck, are considered by Merklen important differentiating signs in the diagnosis of a tubercle in the cerebellum. He relates several instances in which these signs were the key to the diagnostic problem. In one case a man had suffered from headache with "stiff neck" and dyspeptic disturbances since he had been thrown from a carriage. He suddenly became somnolent and apathetic, with slight facial paresis. On this basis a tumor in the cerebellum was diagnosed. A serous cyst was found and the patient recovered after simple evacuation.

Application to the Clinic of the Cytolytic Serums. F. WIDAL.—The bactericidal or cytolytic properties of a specific serum are due to the alexins and the "sensibilisatrice" it contains, according to Bordet's latest researches published in the *Pasteur Annales.* Widal has applied these laboratory experiences to clinical diagnosis and states that we have in the specific cytolysis, an actual and reliable means of diagnosis by means of the blood. He calls it "Bordet's fixation reaction." In tests with typhoid serum, the red corpuscles in blood from a typhoid patient remained intact, while the reds from normal blood were rapidly destroyed, staining the fluid red to the eye, and on shaking it becomes a smooth emulsion. This specific absence of cytolysis parallels the agglutination test. The technique of the "reaction of fixation" is still so complicated, however, that it will probably be restricted to dubious cases of typhoid fever, unless it should be found useful for the diagnosis of other diseases that have no agglutination test.

Intensive Dosage of Antitoxin in Protracted, Recurring or Malignant Diphtheria. BARBIER.—The first dose should be large and it should be repeated as often as necessary to cure these forms of diphtheria. Barbier has injected as much as 90, 110 or 140 c.c. of antitoxin in some cases with the final recovery of the child after the last injection, although the disease had apparently failed to respond to all that had preceded. Many cases are now lost from the timidity of the physician who fears to repeat the doses as many times as necessary. The same argument applies also to pseudo-membranous bronchitis and to the bulbar phenomena consecutive to diphtheria. He relates a number of convincing cases under each of these headings, showing how the most serious bulbar paralysis and other symptoms subsided after the injection of 10 c.c. repeated every day until 125 to 130 c.c. had been administered. This intensive treatment should be instituted before the paralytic or bulbar symptoms have become very pronounced. In many cases they are preceded by one to several days of euphoria, and are inaugurated by a period of depression with increasing weakness and arrhythmia of the pulse. Whatever may be the cause of this change, whether it is diphtheritic infection of some of the viscera, or intoxication at a distance, it is the duty of the physician to be on his guard and to treat it as if it were a typical diphtheritic sore throat, with a large injection of antitoxin, repeated daily as long as necessary. Even this intensive treatment may fail, but it proved successful in the large majority of apparently hopeless cases.

Presse Medicale (Paris), June 8.

Spinal Cocainization. T. TUFFIER.—Among the points of especial interest in this latest communication from Tuffier on the subject, we note that he attributes to Corning, not only the priority of subarachnoid injections but also of the epidural method of spinal analgesia, which Sicard and Cathelin have recently revived. Tuffier states that he found subarachnoid cocainization sufficient for the removal of a hydatid cyst of the lung, and Chipault has observed a case in which anesthesia of the entire body was obtained. In some cases it seemed to be impossible to obtain the analgesia, but instead of assuming an idiosyncrasy, he tried cocain from another source, and found it rapidly effectual. In other instances, one injection failed, but a second succeeded. If the hand of the operator trembles, or the needle is withdrawn a trifle, the fluid may not reach the subarachnoid space. No one should assert that a patient is refractory until he has made a second attempt, as usually it is the surgeon who is at fault. The fact that the patient is a spectator of the operation is scarcely an objection, if the surgeon does not talk. Tuffier makes silence the rule in his operations with any kind of anesthetic. He has noticed that the analgesia occurs more slowly in patients with arteriosclerosis. Guinard found it absolutely impossible to induce analgesia by this means in a patient with infectious meningomyelitis. Tuffier's experience has demonstrated the absolute benignity of spinal cocainization. The nausea can usually be controlled by instructing the patient to take deep inhalations. It is persistent in only 1 per cent. of the cases. Plugging the anus with an aseptic tampon will prevent any inconvenience from the relaxation of the sphincter. Coffee, tea, food, a purgative, are the most effective measures against the headache. It lingers in about 2 per cent. Complete repose frequently wards off all disturbances. The effect of the cocain is restricted to the nervous system, principally to the spinal roots that serve as conductors to pain. The organic disturbances sometimes noted are due to disturbances in the nerve functions, the symptoms resemble those of a transient attack of seasickness, and subside without leaving a trace. The respiratory organs and the circulation remain entirely unaffected during and after the analgesia. The renal functions were carefully studied in sixty cases, the results showing that there is no other method of anesthesia which respects the kidneys so completely. In the few cases of death after spinal cocainization that have been reported, visceral lesions were invariably found at the autopsy, of such severity that any operation was contraindicated. The absence of shock and vomiting and the rapid recuperation of the patient are among the chief advantages of this method. The analgesia usually commences in the genital organs. The general indications for spinal cocainization in preference to general anesthesia are a visceral affection, pulmonary congestion, emphysema, and a renal or cardiac lesion. The special indications are in case of operations on the lower extremities, the genital organs and on the entire urinary apparatus. The surgery of the lungs will also benefit by this method; but for abdominal surgery it should only be used by operators who would not be disturbed if the patient should vomit during the operation.

Paraffin for Ocular Prothesis. J. Chaillous.—Gersuny's injections of paraffin to substitute missing tissues for surgical prothesis, were applied by Chaillous in two cases after enucleation of the eyeball to give the stump a better shape. The results were extremely satisfactory. One or two cubic centimeters of the white vaselin as recommended by Gersuny, and described in The Journal, were injected into the stump, the injection repeated in five or six weeks.

Progres Medical (Paris), May 25,

Rhino-Pharyngeal Origin of Goiter. H. Du Fougeray.—A girl of 12 with chronic *hypertrophic pharyngitis*, chronic catarrh of the rhino-pharynx and a hypertrophic rhinitis, was treated locally for these troubles and it was noticed that a large goiter which had previously developed, subsided and disappeared completely and permanently by the end of three months. The coincidence of the disappearance of the goiter with the cure of the rhino-pharyngeal lesions, induced Fougeray to make further investigations in this line, and he found that rhino-pharyngitis was invariably present in every one of 211 cases of goiter he had opportunity to examine. Goiter not older than two or three years rapidly subsided under the local treatment he instituted in the rhino-pharynx—52 cases in all, the treatment lasting from one to eight months. If there is cystic degeneration the goiter does not entirely retrogress, although in one case, that of a man of 48, the cure was complete after a single puncture and evacuation of the cyst, supplementary to the local treatment of nose and throat. Old goiters, with fibrous nodules or cysts, diminished by a quarter to a half of their size in 133 cases, under treatment for five months to a year. Very large, old, fibrous or cystic goiters subsided somewhat but not very much under the treatment. He has treated 24 cases of this kind and succeeded in several in reducing the circumference of the neck by 5 to 10 cm. in goiters of thirty years' standing. Besides these 209 cases he has treated two cases of goiter with exophthalmus. In the first, the exophthalmus disappeared after two months, and the goiter began to subside in two weeks after treatment of the rhino-pharyngitis was instituted, which was the same in every case: painting the oro-pharynx with mentholized oil three times a day, aspiration of the same oil by the nostrils five or six times and cauterization of the affected portions of the naso-pharynx with chromic acid. The pharyngeal venous circulation communicates freely with that of the thyroid gland. When this plexus and the entire venous system in the pharynx are gorged with blood from the rhino-pharyngitis, the inflammation may extend into the gland and thus cause the goiter. Vascular lesions of the oro-pharynx he concludes from his extensive research, induce simple goiter; of the cavum and of the nose, exophthalmus; of the mucosa of the nose and pharynx, goiter and exophthalmus. Sympathetic lesions of the oro-pharynx, cavum, nose, or of the entire rhino-pharynx produce cardiac troubles without goiter or exophthalmus. Mixed vascular and sympathetic lesions of the oro-pharynx induce goiter and cardiac disturbances; of the cavum and nose, exophthalmus and cardiac disturbances; of the entire rhino-pharynx, the classic picture of Basedow's disease.

Revue de Chirurgie (Paris), June.

Coincidence of Symmetrical Lipomata with General Paralysis. Ch. Feré.—A few rare cases of symmetrical lipomata occurring with a nervous affection, epilepsy, sciatica, tabes or neuralgia, have been published and the lipomata considered to be of trophoneurotic origin. Feré, on the contrary, believes that they are not trophic troubles developing in consequence of lesions in the nervous system, but teratomata or embryotomata indicating defective evolution. Their hereditary and congenital character in certain cases, their coincidence with other teratologic malformations, their symmetry and their appearance in young subjects, all plead in favor of this assumption. A case is described in which the lipomata appeared in youth and progressive paralysis about 50 years of age, with no syphilitic antecedents.

Importance of Investigation of the Blood in Surgical Diagnosis. J. Silhol.—The presence of a malignant neoplasm can be assumed when the blood shows less than half the normal *amount of hemoglobin, the red corpuscles are diminished in* numbers and irregular in shape, with an unusual proportion of very small or very large corpuscles, and a leucocytosis of at least 15,000 to 20,000. Hartmann has the blood of all his patients examined before he operates, limiting the research to the estimation of the hemoglobin by Gowers' method, the enumeration of the corpuscles and determination of the varieties of leucocytes in dried specimens. The operation confirmed the information derived from the examination of the blood in every instance, although the clinical picture and history were usually unknown to those examining the blood. Cushing has called attention to the leucocytosis in typhoid fever as an indication of imminent perforation, and the same rule applies to appendicitis, etc. A young man had experienced brief pain in the right inguinal fossa, at one time, but there was no tenderness. The blood showed hemoglobin 80 per cent.; the number of reds, 4,600,000, whites, 19,200, with a large proportion of regular mononuclear reds. This leucocytosis decided Hartmann to operate even in the absence of any iliac symptom. He found the appendix fastened by adhesions with an almost complete perforation in the middle. In traumatisms, leucocytosis was noted in every case of fracture examined, while it was absent in simple luxations. Nineteen cases are described at length to show the remarkable concord between the blood findings and the conditions found at the operation. Mikulicz refuses to operate on patients with less than 40 per cent. hemoglobin, as he doubts their recuperative power.

Treatment of Severe Rectitis with Stenosis. A. Navarro.—Cases of chronic, painful rectitis, rebellious to ordinary measures, are best treated by abdomino-perineal extirpation as if for malignant disease. Four patients have been thus treated, including three published by Navarro for the first time in this communication. The rectitis involved the omega loop, and between the two rings of stenosis the rectum was a hard, narrow tube. He succeeded in making a continent artificial anus by observing the following points: In the first place, the anus is not merely an orifice, but a canal. The intestine is carried along the abdominal wound for 4 cm. before the orifice is reached, and fastened to the parietal peritoneum, which is closed beneath it. The intestine is then carried along the muscles, sutured to the wound and then to the skin, taking care to twist it *à la Gersuny* before suturing it to the parietal peritoneum. A still more important precaution is to see that the loop is taut between its ilio-pelvic or iliac attachment and the parietal peritoneum, cutting off any superfluous length if necessary. As fecal matters arrive in this taut loop they encounter an obstacle in the closed lumen of the intestine, which is a constant physiologic phenomenon at this point, as the lumen is opened only by the passage of the fecal matters. The obstacle of the closed lumen is sufficient, however, to detain them at this point and their weight in the arc formed by the loop dragging on the mesentery tends to keep the anus closed by traction. In two cases—one patient died from recurring angina pectoris soon after the operation—an actual anal canal was made, perfectly continent, giving the patients five minutes warning before defecation and even allowing postponement for an hour or more. The only essential difference between it and a normal anus is that it is not voluntary. One patient is a prostitute but does not find it necessary to wear a bandage.

Treatment of Abnormal Anus. X. Delore.—Extraperitoneal operations are dangerous sometimes, frequently incomplete and are indicated only in case the anus has no spur and is recent. Entero-anastomosis for the cure of an abnormal anus seems a useless procedure and lateral enterorrhaphy should be reserved for the cases in which the anus is in the large intestine and there is no danger of constriction. Enterectomy is the preferable operation. The loop with the anus is resected far into the sound tissues; a triangular piece is cut out of the mesentery and the two stumps are brought together with a Murphy button. This little device, Delore adds, renders enterectomy a certain, rapid and benign intervention in cases of abnormal anus.

Revue Hebd. de Laryngologie (Bordeaux), June 1.

Hysteria from Needle in Ear. M. Lannois.—A young woman had a habit of scratching her ears with a needle or pin. One night she experienced a violent pain in one ear and two weeks later became completely deaf. The hearing improved in one ear after a month, but the other remained deaf for more than a year. Daily attacks of hysteria commenced, sometimes as many as six a day, with hysteric pseudo-meningitis, paraplegia and other symptoms of hysteria, with occasional pains in the left ear, irradiating through the head. After the hysteria had lasted two years, the patient applied for treatment and a fragment of a needle was found in the left ear, evidently the source of all the troubles, as the hysteria gradually vanished after its removal. Lannois has had occasion to observe several cases of hysteria proceeding from an imaginary foreign body in the ear. Of course in all these cases the patients are naturally predisposed to the hysteria and a slight physical or psychic impetus is sufficient to induce its appearance.

Semaine Medicale (Paris), June 12.

Hemianopsia in Arteriosclerosis with Interstitial Nephritis. Rendu.—The co-incidence of arteriosclerosis with its complicating functional disturbances in the kidneys, and hemianopsia is far from exceptional. Even when the nephritis is in an incipient stage, the hemianopsia may be quite pronounced. It is, therefore, a very important early sign. In five cases observed by Rendu, two soon terminated fatally. The cerebral lesion causing the hemianopsia may be cured by absorption of the blood if it is connected with a capillary hemorrhage, but it always leaves traces if it is the result of thrombosis, as a focus of softening is left and terminates in a cicatrix in the most favorable cases. The functional disturbance—the hemianopsia—persists with it, but the patient becomes accustomed to it and ceases to notice it. The prognosis of the renal lesion is difficult to determine. Disappearance of albuminuria is considered a favorable sign, but it does not necessarily indicate that permeability has been restored. Polyuria is a good sign, especially when not accompanied by exaggerated arterial tension. Persistence of the headache is grave as it suggests impending recurrence of the attack. Treatment should aim to diminish the arterial tension with the danger of hemorrhages, by leeches and drastic purging. Iodids should never be administered during the acute phases of the headache nor the heart tonics, on account of the danger of congestions.

June 19.

Hematolysis in Cancerous Fluids. Bard.—The writer has never seen a spontaneously hemorrhagic cancerous fluid that was not hematolytic, nor a serous cancerous effusion that was hematolytic. The absence of hematolysis, therefore, in a pathologic fluid, spontaneously hemorrhagic, is a capital presumption against its malignant nature.

Berliner Klinische Wochenschrift, June 10,

Successful Dietetic Treatment of Epilepsy. R. Balint.—Thirty epileptics were treated by the deprivation of salt which has been advocated during the last two years. The theory is that when the organism is deprived of salt it is much more sensitive to the effect of the bromids, which seem to take the place of salt in the tissues and fluids. Balint, after various attempts to induce his patients to do without salt, which he found destroyed the appetite in time, finally thought of the expedient of having bread made with sodium bromid in the place of salt. This does not affect the taste of the bread, while it substitutes the required medicine in the place of the banished sodium chlorid. The menu found perfectly satisfactory to the patients' taste, as well as from the therapeutic point of view, was 1 to 1.5 liters milk; 40 to 50 gm. butter; three unsalted eggs; 300 to 400 gm. bread, and fruit. This amounted to a total of 2300 to 2400 calories, the amount of salt was less than 2 gm. in all and 3 gm. of sodium bromid were taken, disguised in the bread. All seizures ceased on this diet in 7 of the 9 recent and in 15 of the 19 old, chronic cases, some of which had had a large number of seizures every day, and had been considered hopeless for years as the bromids had no effect on them previously. That is, in 80 per cent. the seizures were completely abolished and in the remaining 20 per cent. they were very much attenuated and the intervals became longer. In some patients all seizures ceased after the second or third day; in others the number was increased for a few days, but by the sixth or seventh, the beneficial effect was apparent in all. The mental faculties improved in proportion, and patients who had previously been dull and inert all the time, roused and took an interest in gardening, etc. They almost invariably gained in weight and all relished the diet. This menu was continued for thirty-five to forty days. When it was discontinued the seizures recurred in most cases, but much attenuated and they did not regain their former intensity for a long time. One patient continued this dieting for three months and there have been no seizures at all during the month since it was suspended.

June 17.

Enterogenic Origin of Pernicious Anemia. E. Grawitz.—Degeneration of the blood is never a primary blood disease. It is always secondary to some known affection such as malaria or malignant disease, or to slight, chronic hemorrhages or to an alteration of the bones or to some known or ignored poison, such as carbon dioxid, lead, toxins elaborated by intestinal parasites or to toxins generated in the putrefaction of albumin in the intestines. Every case of pernicious anemia can be traced to some cause of this kind if the anamnesis and clinical signs are carefully sifted. The conception of the enterogenic origin of pernicious anemia is an important progress in the domain of hematology. The nervous and the blood systems are the ones most liable to be attacked in case of auto-intoxication from the intestines, and the individual predisposition is the determining factor as to which one is to be affected. Grawitz describes an interesting case in which the pernicious anemia had unmistakably originated in a preceding severe, chronic intestinal catarrh pouring irritating substances into the liver by the portal circulation, and thus inducing extensive infiltration of the periportal connective tissue. The autopsy also showed extensive deposits of iron in the liver cells, which evidently must have been derived from destruction of the blood corpuscles, showing that the poisonous products must have been pre-eminently toxic for the corpuscles. The case is the more remarkable as the subject was a child 7 years of age. The glands in the alimentary canal were not atrophied in this case, which is another proof of the intestinal origin of the anemia. It also demonstrates that this atrophy is not an indispensable factor in the etiology of pernicious anemia, although it undoubtedly aggravates it when it exists. By appropriate dietetic measures, copious rinsings of the alimentary canal and the administration of arsenic, Grawitz has succeeded in curing 6 out of 12 patients with severe pernicious anemia, as he described in detail in the *Berliner Klin. Woch.*, 1898, 31. He has since treated 7 patients and cured each one. One has been in good health for eight, 3 others for four years and 4 others for nearly as long.

Centralblatt f. Chirurgie (Leipsic), June 22.

Immediate Cystorrhaphy After Sectio Alta. Balacescu.—The method described was first worked out on dogs and has been mentioned in The Journal before: xxxi, p. 1369. Further experience has confirmed its extreme usefulness, dispensing with catheterization and drainage, allowing spontaneous urination from the start, absolutely preventing oozing of urine, and answering every requirement. Twelve cases are described. Primary reunion occurred in seven, eight and eleven days in 3 cases, in nine days in 5, in twelve in 2 and in fourteen in 1. Balacescu calls the method "cystorrhaphy by imbrication." The patient is prepared by a three to six days' course of treatment with salol or urotropin internally and permanganate or silver nitrate locally. While the anesthetic is being administered the bladder is rinsed out once more and completely emptied. The incision in the vertex commences in the anterior and continues into the posterior wall. The side of the bladder-wound toward the operator is turned over outward, making a sort of flap with the mucosa exposed. The latter is then detached from the muscular layer beneath, forming a crescent-shaped flap of mucosa, and leaving the muscular beneath with a raw surface. The mucosa flap is then sutured to the intact mucosa of the other lip of the wound with No. 0 or 00 catgut, the stitches passing through the base of the flap. The muscular layers in each lip are then sutured together, the stitches passing through the base of the flap, and the raw flap of muscular tissue is then brought over the double row of sutures like a cover and sutured to the outside of the bladder wall beyond. This cover protects the danger points, the angles of the wound. The patients were allowed to urinate spontaneously in 4 cases from the start; a catheter was inserted occasionally in 2 for seven days and in 1 for four, and a permanent catheter for nine days in 4. All the patients were dismissed cured in twelve days. In one case the sutures had not been applied with the necessary care and there was slight infiltration of urine for a day or so, easily remedied.

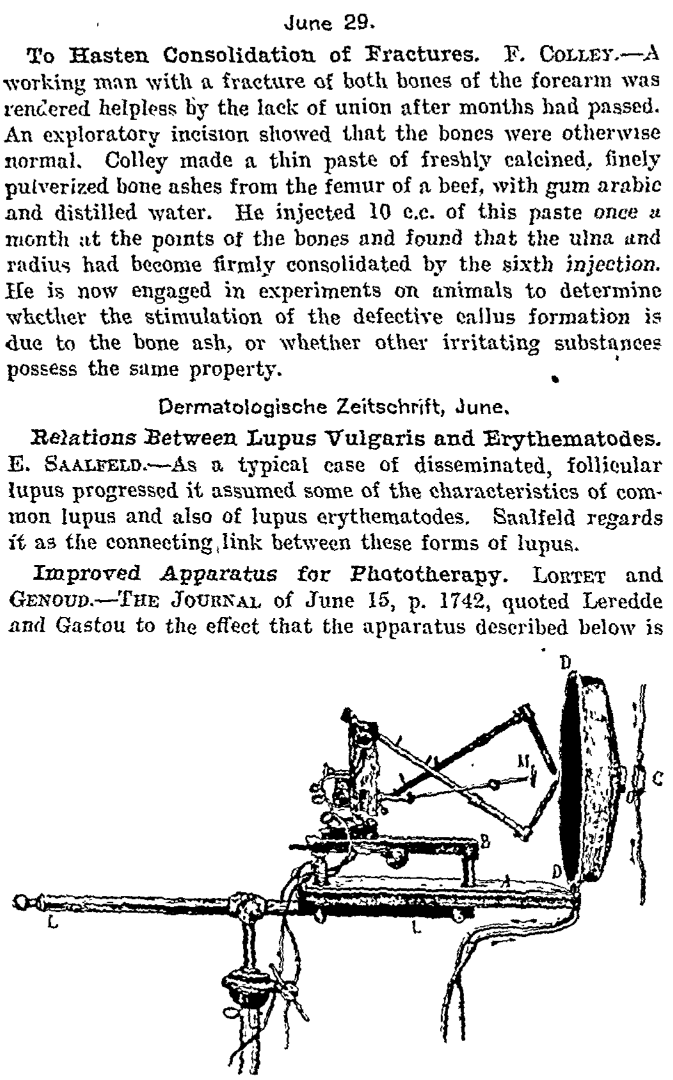
June 29.

To Hasten Consolidation of Fractures. F. Colley.—A working man with a fracture of both bones of the forearm was rendered helpless by the lack of union after months had passed. An exploratory incision showed that the bones were otherwise normal. Colley made a thin paste of freshly calcined, finely pulverized bone ashes from the femur of a beef, with gum arabic and distilled water. He injected 10 c.c. of this paste once a month at the points of the bones and found that the ulna and radius had become firmly consolidated by the sixth injection. He is now engaged in experiments on animals to determine whether the stimulation of the defective callus formation is due to the bone ash, or whether other irritating substances possess the same property.

Dermatologische Zeitschrift, June.

Relations Between Lupus Vulgaris and Erythematodes. E. Saalfeld.—As a typical case of disseminated, follicular lupus progressed it assumed some of the characteristics of common lupus and also of lupus erythematodes. Saalfeld regards it as the connecting link between these forms of lupus.

Improved Apparatus for Phototherapy. Lortet and Genoud.—The Journal of June 15, p. 1742, quoted Leredde and Gastou to the effect that the apparatus described below is a revolution in phototherapy, as it brings it within the reach of every physician on an electric light circuit, and at the same time simplifies and shortens the time of treatment required. The light is brought close to the part exposed, without the interposition of the condenser considered necessary by Finsen. The carbon tips are set at such an angle that the cone of rays passes through the aperture O in the center of the hollow screen vessel D. The walls of this vessel are 6 to 7 mm. apart, thus forming a space through which cold water is constantly circulating, to prevent the heating of the vessel. The carbon tips can be adjusted at any distance from the aperture O, but the most satisfactory is about 1 to 2 cm. In this position the projecting edge of the vessel D shields the light. The mirror M prevents backward radiation of the light and concentrates it at the opening O. The hollow obturator or compressor C is made of two discs of rock crystal allowing the circulation of water between them. The light can be approached to within 4 cm. of the compressor without danger of heating it, although it allows the passage of most of the heat rays. The part compressed is kept cool by the flowing water, and hence the effect of the heat rays is not felt, while the chemical rays pass through the compressor unmodified. The entire apparatus is adjustable at any position on the axle L, which is in turn adjustable on the standard. Only 40 to 45 volts are required, with 8 to 10 amperes. Besides the remarkable simplicity and inexpensiveness of this apparatus, the zone exposed can be from 1 to 6 cm. in diameter. Finsen's apparatus is restricted to an active zone the size of a franc-piece, less than that of a quarter. The photochemical intensity of the light is so strong that fifteen to twenty minutes or even less are ample to attain the desired therapeutic result, equal to an exposure of one to one and a quarter hours with Finsen's apparatus.



Deutsche Archiv f. Klinische Med. (Leipsic), lxx, 1 and 2.

Intercostal Phonation. E. Weisz and L. Ketly.—As the glottis closes, the lung bulges out in the interspaces. This bulging does not occur of course over the liver and spleen, and consequently it is possible to determine with this sign the lower limits of the lung. The bulging can also be the result of pleuritic exudates or transudates and the examination of fourteen patients has shown that this sign is a reliable diagnostic measure, enabling the lower limits of the effusion to be located, unless interfered with or prevented by adhesions, indurations or reflex rigidity of the intercostal muscles. When this phonation sign is observed faintly in a circumscribed patch in the midst of an area of dulness, in the absence of other phonation phenomena, a small amount of exudate can be surmised, unless a thin layer of aerated lung tissue lies between.

Traumatic Diaphragmatic Hernia. T. Struppler.—Very few of the 500 cases of diaphragmatic hernia on record were diagnosed during life and consequently Struppler calls attention to a case in which he made a correct diagnosis by the aid of radiography and Weisz' sign mentioned in the preceding paragraph. The patient complained of pain and oppression in the left thorax after eating, a burning sensation, dating from a severe fall six years previously. He had been punctured nineteen times for a supposed pneumothorax. The constant modifications in the physical findings after eating, drinking, or changing position, suggested the correct diagnosis. The area of dulness after eating included on the left side the third, fourth and fifth interspaces. Inflation of the stomach caused the left half of the thorax to swell and occasioned dyspnea, sweating and general distress, while the epigastric region remained flat. The cold sensation after drinking ice water was experienced in the center of the left part of the thoracic cavity. A quart of water injected into the intestines through a tube 47 cm. in length, caused this same sensation in the left breast, and the same sounds were heard as when water was taken into the stomach. The diagnosis was, therefore, traumatic hernia with displacement of the mediastinum and dextrocardia, with a portion of the intestine as well as of the stomach involved in the hernia.

Deutsche Med. Wochenschrift (Leipsic), June 27.

Significance of Eosinophile Cells in Tuberculous Sputum. E. Stadelmann.—Eosinophile cells in the sputum have no diagnostic nor prognostic importance in tuberculosis, according to Stadelmann's conclusions from the study of 82 cases. The cells were found in 15, that is, 18 per cent., and in severe as well as in mild forms of the disease; in one slowly progressive case they were found in moderate quantities through the entire course of the disease, irrespective of the presence of tubercle bacilli in the sputum. In other cases of incipient tuberculosis no eosinophile cells could be discovered at any time.

Contagiousness of Cancer. R. Behla.—Nineteen unpublished cases of conjugal cancer are reported; in all but two instances the internal organs were affected. Elsler has observed a case in which a man tending his father-in-law with carcinoma of the rectum, developed a carcinoma of the lip a few months later, and his wife a carcinoma of the mamma soon after he was operated on. Boas has observed 5 conjugal cases and Guelliot has collected 89. Four others are also on record. This makes a total of 118 cases in which man and wife both had cancer, the interval ranging from three months to twenty years. Besides these, there are 43 cases on record of a cancer of the penis and of the uterus in man and wife, and 6 of "family cancer" in which members of the family used the same pipe or syringe. Berger recently had occasion to remove a carcinoma from the penis of the husband and from the ear of the wife at about the same time. Ebert has collected 22 cases and Kaufmann has witnessed another, in which there was direct transmission of the malignant neoplasm from one lip to the other, the tongue to the palate, etc. In 8 cases on record surgeons or physicians have died of malignant disease traceable to inoculation with cancerous juices, and 4 instances have been observed in which persons apparently contracted the affection from a cancerous dog, cow or hen. Besides this evidence in favor of the contagiousness of cancer, Behla cites the spontaneous cancerous epidemic among the white mice at the Freiburg Institute of Pathology, and the successful experiments of Francotte, Rechter, Langenbeck, Follin and Lebert, in which animals were inoculated with cancer juices. Behla injected the secretion from a mammary carcinoma into the jugular vein of a 2-year-old dog, and found three months later a nodule of cancerous structure in the liver. He concludes from all these facts that conceding the influence of heredity in some of the cases, of transplantation in others and of the simultaneous action of some general causal agent in certain of the cases of "*cancer à deux*," there still remains a number of the above cases in which these factors must be excluded. Consequently the theory of the non-contagiousness of cancer has been shaken and the physician should institute prophylactic measures.

Preservation of Natural Iron Waters. O. Adler.—Natural iron water is apt to lose its iron by standing. Adler has found that it is taken up by a bacterium in the water, and that if the bacteria are destroyed by the addition of a little disinfectant, the water retains the same properties as when first drawn.

Trauma as a Factor in Extra-uterine Pregnancy. L. Seeligmann.—In five cases in the author's experience young women who had previously borne one or two healthy children, required operating on account of an extra-uterine pregnancy, and each related that she had had a severe fall from a ladder or on the ice, in a sitting position, shortly after her last menstruation.

Deutsche Zeitschrift f. Chirurgie (Leipsic), May.

Perimetry of the Joints. C. Huebscher.—The apparatus used in opthalmology to determine the extent of the visual field, has been adapted by Huebscher as a test and record of the mobility of a joint. The hand, foot or arm takes the place of the eye and the diagram is similar, enabling the entire condition to be seen at a glance, and locating the paralyzed muscles in case of paralytic deformity.

Splenectomy in Splenomegalia. M. L. Harris and M. Herzog (both of Chicago).—Two personal cases of classic primary splenomegalia are described and their cure by splenectomy. One, the patient a young woman, was a chronic case with leucopenia; the other, a man of 47, presented a comparatively rapid course, with leucocytosis. There was hyperplasia of endothelial cells in each case, a process closely resembling that observed in lymphangioma. The therapeutic success of splenectomy in such cases proves that the alterations in the spleen are evidently the cause of the degeneration of the blood. The facts observed suggest that, possibly, the lympho-endothelial spleen cells produce an erythrolytic enzyme which causes the destruction of the blood corpuscles in the spaces in the pulpa. When these cells are enormously enlarged as in case of splenomegalia, a great excess of this erythrolytic ferment is produced and consequently more corpuscles are destroyed in the greatly enlarged spaces in the pulpa than occurs under normal conditions. This hypothesis affords a plausible explanation of the prompt improvement in the blood and the complete recovery after splenectomy in cases of primary splenomegalia. In the seventeen cases that have been published, eight recovered. Median incision is generally recommended, continued downward until the lower end of the spleen can be drawn up and out. The veins are usually very much dilated, thin and fragile.

Muenchener Med. Wochenschrift, June 11.

Gelatin in Hemostasis. Gebele.—Clinical and experimental research has demonstrated that the blood acquires increased coagulating power as the amount in circulation is diminished. Gebele announces that this coagulating power can be directly augmented by the administration of gelatin. It has little if any power, alone, to induce coagulation, but after the loss of one-fifth to one-fourth of the total amount of blood, its hemostatic properties supplement the natural tendency of the blood to coagulation in these circumstances, and it proves a very effective hemostatic measure, injected subcutaneously in a 2 per cent. or applied locally in a 10 per cent. solution, at 37 to 38 C. It will thus prove useful after severe hemorrhages, while it fails in slight hemorrhage in which the usual thermic, chemical and mechanical measures are alone effective.

Pseudomyxoma of the Peritoneum. E. Fraenkel.—The condition known as pseudomyxoma is in reality merely a metastatic reaction of the peritoneum to the bursting of a pseudomucilaginous cysto-adenoma of the ovary or of the appendix vermiformis, with consequent accumulation of jelly-like mucus in the abdominal cavity, and a specific reaction on the part of the peritoneum to this foreign body. In women the symptoms are usually severe, the number of recoveries very small. In a case described at length, a man 79 years of age had died of a cerebral affection and at the autopsy the anatomic picture of pseudomyxoma of the peritoneum was discovered, and the cause traced to a cystic degenerated and ruptured appendix. The connection with the intestines had been closed before the rupture, and consequently the contents discharged were sterile and no symptoms were noted from the occurrence at any time. The peritoneum did not react as usual with the formation of pseudo-membranes, encapsulation of the foreign body and adhesions. The reaction took the form of proliferation of tissue histologically identical with normal tissue, the general aspect of the parts in contact with the glassy, compact mucus resembled that of a young chorion. Fraenkel believes that this is the first instance reported of this condition as a result of a lesion of the appendix.

Improved Pessary for Hemorrhoids. Scheffer.—The portion of the pessary introduced into the rectum is comparatively short, the upper half sloping at an angle of 90 and the lower tapering into the neck at an angle of 55 degrees. The neck is very slender and a projecting ring just outside the anus is constantly pressed against it by the muscular contraction exerted by the sphincter on the sloping sides of the pessary within. This ring keeps a prolapsed nodule reduced, while none of the pessaries in use accomplishes this.

Reindeer Tendon as Suture Material. Greife.—The Russian surgeons are using reindeer tendon more and more extensively as time is confirming Sneguireff's assertions that it is the ideal suture material. It has been used in 450 laparotomies and innumerable minor operations with the most satisfactory results. It is comparatively sterile from the start, no germs have ever been discovered below the surface, and it takes up the disinfecting fluids much more readily than catgut. Tests have shown that when the tendon is thoroughly imbued with a stain, only one-third of the catgut in the same fluid shows traces of the stain. The method of sterilization preferred in the Moscow clinics is for two days in ether, one month in juniper oil, ether two days, alcohol two to seven days, in aqueous 1 to 2000 solution of sublimate two days, and in conclusion, the tendons are kept in alcohol to which 30 per cent. water is added to render the tendons flexible.

Differentiation of Extragenital Syphilitic Infection on the Lips. LIEVEN.—It is not difficult to differentiate a syphilitic lesion of the lips when the physician has this possibility in mind. The difficulty is to bear it in mind, and yet statistics show that one out of every ten cases on an average is extragenital. In Russia the proportion is 50 to 60 per cent. The round or oval outline, the induration and the swollen glands may all be missing from the primary manifestation on the lip which may be erosive, scabby or ulcerative. The lesion frequently resembles the slight erosion made when a scrap of cigarette paper sticks to the lip and is roughly brushed off, carrying with it a patch of epithelium. No induration is perceptible to the eye, and there is usually merely a feeling as if the erosion contained a layer of parchment, when it is rolled between the fingers. The scab is usually dark brown, sometimes almost black. The glands back of the sterno-mastoid muscles are affected when the lesion is in the throat. The difficulty of differentiation is enhanced if the lesion has been cauterized or otherwise treated. The microscope will show that herpes has an outline made up of numerous arcs of small circles instead of the continuous circular outline of the chancre. A submaxillary bubo is indolent, with scarcely any tendency to suppuration, in which it differs from the glandular affection of acute infectious processes. The rule that general treatment must not be instituted until secondary manifestations appear, must be disregarded in case of lip lesions, on account of the danger of infection of others.

Wiener Klin. Rundschau. June 16.

Recovery from Bronzed Diabetes. A. MURRI.—A case diagnosed as bronzed diabetes terminated in recovery. The patient was a woman living in extreme poverty, and it is evident in this and in other cases of the kind, that the unhygienic mode of living, the insufficient nourishment and ventilation and the action of alcohol, lead or syphilitic toxins, may induce a gradual alteration in the elements of the vital cells of the body. This alteration may result in cachexia as the general effect, accompanied by a diffuse increase in the connective tissue, hemochromatosis and glycosuria, presenting the clinical picture of bronzed diabetes, but without cirrhosis of the liver. Consequently bronzed diabetes is not necessarily the expression of a pigmented hepatitis, and in its absence, recovery is possible. The frequent coincidence of diabetes, hemochromatosis and interstitial hepatitis does not indicate that they proceed from the same morbid process, but merely that each possesses certain features of a hygienic, toxic, biologic and otherwise morbid and pathologic character which all culminate in impairing the general metabolism. The nature of some of these causal influences explains why bronzed diabetes was never observed in a woman before this case, and also why one or the other of the triad may predominate, like the hepatitis in hard drinkers, or may be conspicuous by its absence, like the hepatitis in this case, the diabetes or the hemochromatosis in others.

June 23.

Technique of Roentgen Radiography. G. HOLZKNECHT and R. KIENBOECK.—It is impossible to obtain clear outlines of the shoulders, internal organs and even of the knee when the subject is breathing as usual. He should first be placed in the most natural, passive attitude—free from muscular strain at any point—and then be instructed to breathe rapidly and deep for a minute or more, then naturally for a minute. He is then requested to stop breathing and the apnea is sufficient to carry him for half a minute without a desire to breathe. This desire recurs during the third quarter of the minute but can be suppressed without much effort during the fourth quarter. Some persons are able to hold their breath for more than a minute. After the last inhalation the glottis is closed by slight pressure of the expiration muscles, and with a little intelligence the subject can hold the breath in his throat with open mouth, until compelled to breathe once more, when he closes his eyelids or moves a finger or by some other sign gives warning, and the exposure is arrested at the same instant. The shoulders can be supported by having the subject sit in an arm-chair and rest his arms, then slide forward until his shoulders are supported entirely and exclusively by the elbows on the arms of the chair, as he leans passively against the back. This eliminates the motion imparted by the thorax walls during breathing, and enables the shoulders to be radiographed as distinctly as in the cadaver. We have no means of controlling the peristalsis of the intestines which frequently interferes with radiography. Besides the comfortable, completely passive position, with fixation by tying, weighting with sand bags, etc., and the banishing from the room of every article that might distract the attention either of eye or ear, narcosis will be found useful and even indispensable in case of important radiographs in children.

Giornale della R. Academie di Med. di Torino (Turin), lxiv, 4.

Ovarian Cyst Containing Eggs of Oxyuris. G. MARRO.—The female oxyuris vermicularis usually deposits her eggs in the rectum or its vicinity, sometimes around the anus, sometimes in the vagina, and it has even been found in the uterus and bladder. In the case described the female must have traveled through the tube and reached the ovary, where it became encapsulated and the eggs liberated. They were preserved intact in the depths of the cyst growing around them. No live helminths could be discovered. The subject was an inmate of the Turin Insane Asylum and the cyst was found at the autopsy.

Influence of Oxygen on the Elimination of Carbon Dioxid. A. BENEDICENTI.—From experiments with animals who were injected with carbon dioxid in the peritoneum, Benedicenti has found that oxygen has a remarkable power in preventing the absorption of carbon dioxid by the blood, and hence promotes its elimination. Oxygen is, therefore, the best of all antidotes for intoxication with carbon dioxid. One-tenth of the dioxid injected in the peritoneum was eliminated unaltered by the lungs during the two hours thereafter. Equal parts of hydrogen injected at the same time had no influence on this elimination, but it was very much increased when equal parts of oxygen were injected instead. The elimination is materially diminished if the air breathed contains much carbon dioxid. Further experimentation demonstrated that the oxygen absorbed by the blood at the same time as the carbon dioxid, supplied the need of the corpuscles for oxygen and also opposed a chemical obstacle to the combination of the carbon dioxid with the hemoglobin. The dioxid, therefore, remains uncombined in the blood and is thus rapidly eliminated through the lungs.

Transplantation of Embryonal Tissue in the Ovary. R. TRAINA.—The abdomen of 116 gravid guinea-pigs was opened just before term and a fragment of an embryo transplanted into the maternal ovary. In every case the fragment continued to develop normally; nails and hairs appeared, etc., and in every case a cyst developed in the parenchyma enclosing the transplanted fragment.

Semana Medica (Buenos Ayres), April 4.

Mechanical Treatment of Aneurysms of the Aorta. A. RAMAUGE.—Watch springs made of palladium or of an alloy of palladium and iridium, do not lose their elasticity when kept in water and do not become oxidized in artificial serum. Ramauge suggests that a spiral spring of this kind, with eight or ten turns, might prove useful in inducing coagulation if introduced into an aneurysm. The iron or steel wires hitherto used for the purpose become oxidized in the blood and their elasticity suffers, while the oxidation causes the production of salts which may affect the newly-formed coagulum.

Vaccination as a Therapeutic Measure in Whooping Cough. D. LOFRUSCIO.—The children were vaccinated for the first time in 121 cases and revaccinated in 31 out of the 152 cases of whooping cough complicated with bronchitis or pneumonia in many instances, which Lofruscio had occasion to treat last year. He is convinced that vaccination solves the therapeutic problem of whooping cough. Five typical cases are described in detail; in most of them pneumonia and the convulsions ceased as if by magic after the vaccination and although the cough persisted for a few weeks in some cases, it was merely as an ordinary catarrhal cough.

Queries and Minor Notes.

ADVERTISING.

NORWICH, N. Y., July 5, 1901.

To the Editor:—Does the Code permit of the use of a card like the enclosed in our local papers? L. E.

ANS.—The advertisement accompanying the above is a "display" card and contains the following: "Doctors ——— & ———, Oculists and Aurists. Diseases of Eye, Ear, Nose and Throat only. Eyes properly fitted with glasses. Catarrhal diseases treated." This is followed by the street address, by the names of the doctors, with initials, and other non-essential matter. The Code says: "It is derogatory to the dignity of the profession to resort to public advertisements or private cards, or hand bills, inviting the attention of individuals affected with particular diseases. * * * These are the ordinary practices of empirics, and are highly reprehensible in a regular physician." A studied observance of law, doing all that it permits, taking advantage of its limitations and ambiguities, going as near to violation as is safe, is not in conformity to the higher standards of ethics in business or professional life. Fortunately, the citation is sufficiently explicit, and the intent unquestioned by most members of our profession.

WAY TO MEMBERSHIP TO AMERICAN MEDICAL ASSOCIATION.

HOUSTON, TEXAS, July 5, 1901.

To the Editor:—Is a physician who graduated from an irregular school the year 1856 and has been recognized as regular ever since the year 1864, and passed examination before regular board of examiners of this state (in Houston, Texas), and has certificate from them dated Sept. 5, 1893, granting the privilege to practice medicine as a regular, entitled to membership in the American Medical Association? W. O.

ANS.—Membership in the American Medical Association is obtained only through membership in an affiliated society. There is no objection to an affiliated society accepting for membership an individual as described by our correspondent.

AIR EXHAUSTION OF PLEURAL CAVITY IN EMPYEMA.

KANSAS CITY, MO., June 27, 1901.

To the Editor:—I recently noticed in some journal (I think it was in your valued paper) an account of a method of cure of empyema by exhausting the air from the pleural cavity, by means of a rubber dam and air pump. I can not find the article now; can you assist me? W. E. P.

ANS.—The special article, if recent, can not be identified in THE JOURNAL.

OWNERSHIP OF PATHOLOGIC SPECIMENS.

ST. CLAIR, MINN., July 9, 1901.

To the Editor:—After an operation for removal of gallstones, who is entitled to the specimens—i. e., the gallstones—the operator or the patient? Please state if this question has ever been decided by the courts. We removed 90 gallstones from a patient suffering with cholelithiasis and the husband claims and demands the stones. C. J. H.

ANS.—Custom and common usage awards pathologic specimens removed by a surgeon to the operator. Legally, they belong to the patient. The question has been decided by the courts as regards an amputated leg, but not, probably as regards gallstones. The principle is the same, however.

MEDICAL QUALIFICATIONS.

KILLEN, ALA., July 1, 1901.

To the Editor:—What will be necessary in order to legally practice medicine in Anardako, or any part of the Indian lands soon to be "opened for settlement?" A. Z.

ANS.—To secure a license to practice in Oklahoma one must either be a graduate of a reputable medical college or pass an examination.

CHICAGO, June 28, 1901.

To the Editor:—Will you please inform me relative to the law regulating the practice of medicine in Indiana? Is a diploma from a recognized and legal college a sufficient document to practice medicine under, according to the present law of the state? Or is an examination necessary, besides? C. C.

ANS.—A satisfactory diploma and an examination are both required.

WASHINGTON, IOWA, July 1, 1901.

To the Editor:—Will you kindly tell me where I can get the following information: What states require less than four years in a medical college as a requisite to the practice of medicine? G. H. P.

ANS.—It is impossible to answer this question, as the laws of some states are not definite with regard to this point.

PHYSICIANS NOT BIDDING AGAINST EACH OTHER.

"AUGUSTA, ILL., June 21, 1901.

"We, the undersigned physicians of Augusta, do hereby mutually promise and agree among ourselves and to each other to the following: 1. That we will not bid for pauper practice. 2. That we will not attend paupers at a less rate than the regular established and recognized fee bill of Augusta.

"It is also understood that no one physician shall be favored in the distribution of pauper practice, but that the patient shall be given the privilege of choosing his own physician.

"[Signed.] R. J. Grigson, R. C. Ditto, C. R. Hecox, J. P. Ellis."

It has been the custom heretofore for some one of the doctors to enter into a contract with the county to do the pauper practice of the township at a fixed price, which was generally ruinously low. The above will be, in our opinion, the better way to do. The county is abundantly able to pay the doctors for prompt practice. All other bills are always paid in full and we see no reason why a doctor's fee should not also be paid in full by the county.—*Augusta* (Illinois) *Eagle.*

An agreement similarly worded was also signed by all the physicians of Christian County, Illinois. We are glad to record such an evidence of united action among physicians in two counties in Illnois.

New Patents.

Patents of interest to Physicians, issued June 18 and 25, and July 2:

676,713.	Therapeutical vaporizer. Joseph E. Cross, Brattleboro, Vt.
676,814.	Formaldehyde fumigator. Leon Fevel, New Brunswick, N. J.
676,604.	Massage instrument. Libbie S. Fritze, New York City.
676,636.	Catamenial sack. Daisey P. Sonnehill, New York City.
34,664.	Design, syringe nozzle. James G. Poe, Dallas, Texas.
677,172.	Stethoscope. Robert C. M. Bowles, Brookline, Mass.
677,181.	Surgical table. Carlos F. Dardano, San Salvador, San Salvador.
677,091.	Vaginal syringe. Hartland and H. E. Law, San Francisco, Cal.
676,999.	Stethoscope. Walter E. Scott, Adel, Iowa.
677,050.	Exercising machine. Alexander A. Whitely, Chicago.
677,751.	Soda-water fountain. Bernard Baron, London, England.
677,756.	Lancet. Robert Caldwell, Auckland, New Zealand.
677,602.	Device for lifting and handling invalids. Harry E. Sharrer, Hammond, Ind.
677,480.	Syringe. Mary K. Thomas, Akron, Ohio.
677,824.	Device for developing muscles of the hands and fingers. Gustavus Troxler, Jr., Newark, N. J.
677,489.	Water bag. Sarah A. Woods, Flushing, N. Y.
34,708.	Design, nasal cup. Wm. J. Evans, New York City.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending July 6, 1901:

Surgeon T. A. Berryhill, detached from the Naval Laboratory, Brooklyn, N. Y., and granted sick leave for three months.

Asst.-Surgeon J. H. Iden, detached from the Naval Hospital, Chelsea, Mass., and ordered to the *Lancaster*, July 8.

Asst.-Surgeon G. L. Angeny, detached from the *Lancaster* and ordered to the Naval Laboratory, Brooklyn, N. Y.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended July 4, 1901:

Surgeon G. W. Stoner, granted leave of absence for thirty days from August 3.

Surgeon J. J. Kinyoun, directed to proceed to Yokohama, Japan, and Hongkong, China, as inspector. Granted leave of absence for four months from completion of duty as inspector.

P. A. Surgeon J. B. Greene, granted leave of absence for two days from July 5.

Asst.-Surgeon Hill Hastings, granted leave of absence for two months from July 15.

Asst.-Surgeon H. B. Parker, relieved from special temporary duty at San Francisco, Cal., and directed to rejoin station at New Orleans, La.

Asst.-Surgeon W. C. Billings, relieved from duty at Baltimore, Md., and special temporary duty at San Francisco, Cal., and directed to proceed to Los Angeles, Cal., and assume temporary command of the service during the absence of medical officer in command, reporting to him for duty upon his return to station.

Asst.-Surgeon Dunlop Moore, relieved from duty at Port Townsend quarantine, Washington, and directed to proceed to Nome, Alaska, for special temporary duty July 1, 1901.

Asst.-Surgeon Carroll Fox, relieved from duty at Portland, Ore., and directed to proceed to Port Townsend quarantine, Washington, and report to medical officer in command for duty.

Hospital Steward G. C. Allen, relieved from duty at Mullet Key, Fla., and directed to proceed to Norfolk, Va., and report to medical officer in command for duty.

Hospital Steward F. H. Peck, relieved from duty at New Orleans, La., and from special temporary duty at San Francisco, Cal., and directed to proceed to St. Louis, Mo., and report to medical officer in command for duty and assignment to quarters.

Hospital Steward W. C. Phillips, directed to proceed to Chicago, Ill., and report to medical officer in command for duty and assignment to quarters.

APPOINTMENT.

W. C. Phillips, of Iowa, appointed junior hospital steward in the U. S. Marine-Hospital Service.

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Original Articles.

EMPYEMA OF THE FRONTAL SINUS.*

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CHICAGO.

Suppurative sinusitis or empyema of the frontal sinus is a comparatively rare affection, although, all told, many cases have been recorded. It is frequently an acute disease characterized by pain over the frontal sinus, which continues persistently for several days and is finally relieved by a discharge of pus from the nose; or the pain may come on daily, lasting for a few hours only. These acute cases frequently run a rapid course and terminate in resolution. Chronic empyema may be of the variety known as latent sinusitis which, according to Mayo, Collier and Milligan, is characterized by symptoms and signs similar to those of acute empyema and yet not very different from sinusitis of a simple non-suppurative catarrhal character.

The latent disease is essentially chronic, but on account of the free opening from the sinus into the nasal passages there is no permanent collection of pus and none of the external manifestations are observed which appear when the outlet from the sinus is obstructed.

The common characteristics of the more formidable affection attended by obstruction of the outlet are: severe pain similar to that of the latent disease, more or less external deformity, such as swelling of the eyelids, tumor at the inner canthus or extending above the eyebrow, and external abscess of fistula.

ANATOMICAL AND PATHOLOGIC CHARACTERISTICS.

The manifestations of this disease vary greatly in different cases, largely because of variation in the anatomic formation of the parts. In not a few individuals the frontal sinus is absent either on one or both sides. The frontal sinus may be small on one side and large on the other; the small side being reduced to a mere slit, in some cases, while the other may constitute a large roomy cavern extending high up into the frontal bone and far into the zygomatic process. The sinus is commonly divided by bony ridges into more or less marked recesses, which account for the difficulty often experienced in obtaining free drainage. It is separated from its fellow of the opposite side by a bony septum which should be found in the median line, but which frequently passes obliquely to one side so that one sinus is enlarged at the expense of the other. The septal wall of the sinus frequently shows bony defects, but, according to Killian, actual communication between the two cavities is extremely rare because the opening in the bone is filled in by mucous membrane. In one of the cases that I shall report the septum had entirely disappeared and there was no bony posterior wall, though it is not improbable that these results came from the pressure of the long-pent-up pus. It is probable that defects in the cerebral wall are sometimes congenital. In a case reported by Gibson, the cerebral wall of the right sinus was absent. In my case it was absent on both sides. In Gibson's case septic meningitis followed suppuration of the sinus; he supposed on account of the absence of the posterior wall. Usually the thinnest of the walls of the sinus is its inferior, or orbital, plate, where the bone is only about one millimeter in thickness. This thin area is situated just back of the orbital margin, and, as Turner determined, is found about half an inch external to the middle of the root of the nose.

The sinus begins to develop about the seventh year of life and is not perfected until about the twenty-first year; therefore we do not find disease of this cavity in children. The anatomy of the outlet of the sinus, known as the canalis nasofrontalis, is even more complicated and variable than that of the sinus itself; in fact, the structures that surround it are so intricate in composition that it is hard to form a definite mental picture of its position. The opening into this canal may be situated either near the anterior or posterior wall of the sinus. The canal itself is a narrow tube which, according to Gustav Spiess, averages about nine-sixteenths of an inch in length and its usual diameter at its outlet is from one-twelfth to three sixteenths of an inch. Sometimes it is not a canal, but a mere hole leading from the frontal sinus directly into the infundibulum. Turner says that this aperture is usually from one-twelfth to five-sixteenths of an inch in diameter. It commonly starts from the anterior lower portioln of the frontal sinus and passes downward and backward, opening into the infundibulum; but it may open in front of the hiatus semilunaris under the anterior end of the middle turbinated body. The canal is sometimes transformed into a tortuous passage by the encroachment on its lumen of the fronto-ethmoidal cells of Bryan or the cellulæ frontalis of Killian. These cells are situated both in front of and behind the sinus, or they may open into the sinus or into the infundibulum. Some authors confound the canalis nasofrontalis with the infundibulum, an error very confusing to students. The infundibulum is that part of the middle meatus into which the frontal sinus and antrum of Highmore discharge by means of their natural openings. It is situated in the upper part of the hiatus semilunaris behind and external to the processus unciformis of the ethmoid bone, high up under or external to the anterior third of the middle turbinated body. The hazy impression possessed by some concerning the location of the opening of the frontal sinus is illustrated by Milligan, who mars his otherwise superior article on empyema of the frontal sinus by directing that, in introducing a probe, it be passed upward between the middle turbinated body and the septum, a direction which would guide it to the inferior surface of the nasal bones and the cribriform plate. In order to pass a probe into the canalis nasofrontalis it is necessary to direct it to the outer or maxillary side of the anterior end of the middle turbinated body. It should not be forgotten that this canal opens into the infundibulum close beside the opening of the antrum of Highmore, and that occasionally the two discharge by a common opening into the hiatus semilunaris. This explains the fact that suppuration of one of these cavities often causes infection of the other; indeed, Milligan has observed that fluid injected into the antrum of Highmore is sometimes discharged through a surgically made external opening in the frontal sinus. Sometimes the canal leading from the frontal sinus is absent from one side, and the two sinuses discharge by a common outlet, while in other cases the sinus may discharge through the ethmoidal cells.

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* Read in the Section on Laryngology and Otology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

The normally thin mucosa of the frontal sinus is subject to varying degrees of swelling in both the acute and chronic forms of sinusitis. This is apt to lead, in acute cases, to great edematous thickening, and finally to polypoid proliferation. In the chronic aggravated forms of the disease most authors speak of granulations and polypi that may fill the sinus; nevertheless, true granulation tissue is rare, and for the most part the epithelium remains intact, with the exception of the loss of ciliæ, while mucous polypi and hyperplasia of the mucosa form the bulk of the mass that fills the sinus. The hyperplasia and polypoid masses are not confined to the lumen of the sinus, but appear also in the hiatus semilunaris under the middle turbinal. The mucous membrane in this latter position may also be found in a state of polypoid degeneration.

The mucosa over the processus uncinatus sometimes swells and forms a thick fold of hyperplastic tissue which fills much of the space beneath and to the outside of the middle turbinated body. This so-called lateral fold—*lateraler Schleimnhautwulst* of the Germans—interferes with the drainage of the sinus, which is also obstructed by masses of polypi in the middle meatus. On account of the anatomic formation it frequently happens that suppuration is not confined to the frontal sinus but extends to the ethmoidal cells, the antrum of Highmore, or even to the sphenoidal sinus. As a result of necrosis or caries of the bony walls the suppurative process may extend to the brain or the infectious material may be carried through the bony wall by way of the numerous venous channels, while the bone itself remains intact. Thus we may account for the orbital and intracranial complications which occasionally occur, such as abscess in the upper angle of the orbit, meningitis, abscess of the frontal lobe, and thrombus.

ETIOLOGY.

Acute frontal sinusitis usually results from an acute coryza, especially that attending influenza. In a limited number of cases, it follows acute infectious diseases. The most important factor in the etiology of empyema of the frontal sinus is infection from the other sinuses. It has already been shown how infection of the antrum of Highmore may lead directly to suppuration when the two cavities open by a common duct, and also how suppuration of the cellulæ frontales or ethmoid cells will, in many instances, lead to the same result. Most of the chronic cases are a continuation of acute sinusitis which is perpetuated by interference with free drainage, as for example by polypi, extreme deflections of the septum or large exostoses from this bone, or by hypertrophy of the turbinated bodies. Anything, indeed, which obstructs the natural orifice, to a greater or less degree, favors the development of empyema as the result of the acute catarrhal affection. Karutz reports one case in which frontal sinusitis followed cauterization of the inferior turbinated body, and it is easy to understand how this might result from an extensive burn in persons with certain idiosyncrasies or in conditions favoring inflammatory processes. In many cases the frontal sinus undoubtedly becomes infected from the ethmoidal or fronto-ethmoidal cells, and such an accident may happen during suppuration in any of the accessory sinuses of the naris.

SYMPTOMATOLOGY.

The symptoms of acute suppurative inflammation of the frontal sinus usually come on a week or two after the subsidence of the coryza which caused it. They commonly consist of photophobia and pain in the eye and free lacrymation, with pain in the region of the supra-orbital nerve. The pain is commonly intermittent, and is apt to come on at 9 or 10 o'clock in the morning, last for a few hours, and then pass off until the following day, when it is prone to return at the same hour. It is likely to last somewhat longer each successive day and it usually steadily increases until the eighth or tenth day, after which it may be constant, though in some cases the intermittent character of the pain continues throughout the disease. The pain is most prominent in the region of the supra-orbital nerve, but is for the most part limited to the area of the sinus. The severe symptoms usually subside when discharge of pus takes place. Rhinoscopy commonly furnishes no evidence until about the second week of the disease, when pus appears in the naris. Sometimes the pus is discharged in large quantity at once, with a gush, but usually it comes at first more or less freely and then continues to trickle away during the day, while the flow is apt to be much diminished at night.

In latent empyema of the frontal sinus there is sufficient drainage to prevent the accumulation of any great amount of pus or at least a sufficient amount to distend the walls of the cavity.

The disease usually comes on insidiously, and generally the first symptom to attract attention is pain in the region of the supra-orbital nerve; but later on this is likely to be felt at the root of the nose. When the pain is intermittent, it may be mistaken for neuralgia. It is apt to be aggravated by stooping over and sometimes is increased by lying down. It may be slight or quite severe, though it seldom becomes unbearable. This pain is frequently mistaken for syphilitic headache and is treated accordingly.

In a considerable number of cases the symptoms are not marked. The discharge is so slight that it attracts but little attention and the patient may go on for years suffering from what he denominates neuralgia or catarrh, without obtaining an accurate diagnosis. Symptoms referable to the eye, sometimes result from inflammation of the frontal sinus; as for example, sensitiveness of the upper lid or eyeball, photophobia, haziness or diminution of the acuteness and of the field of vision. Hyperemia of the fundus may also be noted in some instances.

When the canalis nasofrontalis is absent or is closed from any cause, the pus gradually collects and distends the walls of the frontal sinus so that a tumor may appear at the inner canthus of the eye, at the root of the nose, or above the orbital ridge; such a manifestation, taken in connection with more or less intermittent pain, would at first lead us to suspect empyema of the frontal sinus, so that such cases are much less liable to escape observation than the latent variety of the disease.

One of the least difficult but, unfortunately, one of the uncertain aids in the diagnosis of this affection is transillumination. Kuhnt claims that the area of the frontal sinus can be accurately defined by this method, and A. Logan Turner has demonstrated the accuracy of this statement by opening the sinuses after they had been mapped out by transillumination; but unfortunately the anatomic variations already mentioned show that this method can not always be relied on in the diagnosis, although in Turner's investigations it did not suggest that a sinus was present in any case where none was found. In transilluminating the frontal sinus, we commonly use a small lamp enclosed in a cylinder about one-half inch in diameter, the open end of which should be applied as nearly as possible beneath the thinnest portion of the floor of the sinus, that is, about five-eighths of an inch from the middle of the root of the nose, just beneath the supra-orbital margin, and one must be careful to crowd it back far enough in the orbit to avoid illuminating only the soft parts of the eyebrow. If the patient directs the eyes downward, more room will be allowed for the application of the light in this position. Unusual density of the bones composing the walls of the sinus, unusual thickness of the anterior wall—that is, more than five-sixteenths of an inch—or a close approach to each other of the anterior and posterior walls at the bottom of the sinus, or actual absence of the sinus, will give a shadow and may lead the observer to suspect pus when it is not present. In rare cases the sinus appears light even though it contains pus, especially when the cavity is mostly occupied by mucous polypi or cysts. It will be seen, therefore, that transillumination, though a valuable aid, does not necessarily furnish diagnostic signs. Nevertheless, this method should be used in connection with other means of diagnosis. Transillumination also aids us in determining the position of the septum between the two sinuses. As I have already stated, this position is not necessarily in the median line. If one sinus is illuminated and the other yields a shadow, it is easily determined where an opening should be made in order to enter the affected cavity. Gradenigo claims that the empty sinus can be mapped out by careful, gentle percussion; therefore, sometimes this method of diagnosis may be of value. One of the most prominent symptoms of suppuration of the frontal sinus is a discharge of pus from one naris. On rhinoscopic examination and careful cleansing of the cavity, when there is not too much swelling, we may discover the point of exit of the pus. If this is found to be from the middle meatus, external to the anterior end of the middle turbinated bone, we may know that it comes either from the antrum of Highmore, the anterior ethmoidal cells, the fronto-ethmoidal cells or the frontal sinus, or from all of these combined. It will then be necessary to reach a diagnosis by a process of exclusion. Probing the frontal sinus through the naris is not exceedingly difficult when the outlet opens directly into the anterior part of the middle meatus, but if the opening is into the infundibulum, this procedure is practically impossible. In any case there is liable to be considerable difficulty in determining whether the probe has passed into the frontal sinus or whether it has entered the ethmoidal or the fronto-ethmoidal cells. Killin suggests that sometimes a probe can be felt to run against the front wall of the sinus, and that in other cases the patient can localize the position by his own sensations. He also determines the depth to which the probe has been passed, and whether it has merely reached the orbital border or has passed well into the frontal sinus, by bending a second probe to the exact shape of the first and placing it externally against the face in a position corresponding to that of the probe in the nasal passages. The fluoroscope has been used by Max Scheier, to determine whether the frontal sinus has been entered by the probe. He found that in this way he could readily see the metal probe, but he also discovered that the depth to which the probe had been passed was a very uncertain guide, for sometimes the fluoroscope showed that it was in the ethmoidal cells when he supposed that it was in the frontal sinus. It is my custom, when probing the frontal sinus, to use a long silver canula, attached to a small syringe, Fig. I, through which air can be blown into the cavity, which will force out pus or air bubbles if the cavity contains liquid. Another satisfactory method is to have the syringe charged with a warm 50 per cent. solution of pyrozone, which is injected into the cavity. In case pus is present this will be immediately followed by a profuse frothy discharge. It should be remembered that exploration by means of a probe or canula is not entirely without danger, for it is recorded that one death from meningitis has resulted from piercing the cerebral wall of the sinus, and in another instance the cribiform plate of the ethmoid has been perforated by passing the probe in the wrong direction between the middle turbinated body and the septum.

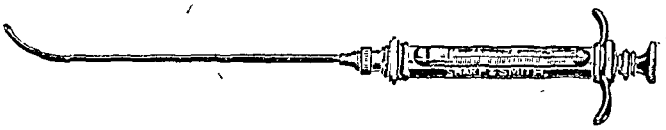
Fig. 1.—Long silver nozzle attached to hypodermic syringe.

DIAGNOSIS.

Notwithstanding all the factors that have been pointed out, the diagnosis in some cases will be extremely difficult, especially in the latent form of the disease. If the outlet from the frontal sinus has become obstructed so that external manifestations appear, the diagnosis is easier, but even then we must bear in mind that tumors of the sinus, dermoid cysts, distension of the lacrymal sac, and cellulitis of the orbit due to other causes than frontal sinus suppuration may give rise to external swelling. The diagnosis of latent empyema must be made largely from the symptoms, the shadow shown by transillumination and exploration through the canalis nasofrontalis with the probe or canula and the injection of air or peroxid of hydrogen. The diagnosis when the outlet from the sinus is obstructed will depend largely on the pain and external swelling, but even in these cases there may be some discharge from the sinus so that pus will appear in the middle meatus.

Tumors of the sinus may be attended by a purulent discharge, so that it may be impossible to make a differential diagnosis until the cavity has been opened. Dermoid cysts and dacryocystitis, both of which may cause some of the eye symptoms already referred to, may usually be excluded by the fact that they *do not* cause a purulent discharge into the naris. Orbital cellulitis may result from inflammation of the ethmoidal cells or of the frontal or sphenoidal sinus. When the latter is the cause, the pain is severe and the inflammation is deep-seated and usually early blindness follows; whereas, when disease of the frontal sinus is responsible for this affection, the inflammation is more likely to involve the anterior part of the orbit with less serious consequences to the eye, which may be limited to diplopia and displacement of the globe.

PROGNOSIS.

The prognosis in acute inflammation of the frontal sinus, whether suppurative or not, is usually good. Most patients will recover within a few weeks if care is taken to keep down the swelling of the nasal mucous membrane. The prognosis in the latent variety of empyema is much less satisfactory as, in many of these, suppuration continues for several years. The prognosis in marked cases of empyema where the outlet from the frontal sinus is obstructed is equally unsatisfactory as to time, and it is occasionally grave on account of extension of the infection to neighboring parts.

TREATMENT.

Treatment is commonly recommended with such confidence as to lead a novice to believe that the affection may be easily cured, but unfortunately this confidence is apt to be rudely shaken by experience, for notwithstanding the most approved methods at our command, in some instances the suppuration will drag along for years. In acute cases the treatment should consist of warm and soothing detergent and antiseptic sprays for cleansing the nares, with the free use of a watery extract of adrenal glands or of a solution of adrenalin several times a day, or the more guarded use of small quantities of cocain three or four times a day to keep down swelling and thus permit free drainage. In most cases it will not be necessary to wash out the frontal sinus. In latent chronic cases detergent sprays or washes should be employed to keep the nares clean, and various mild antiseptic powders or sprays may be used advantageously three or four times daily; however, these measures will generally prove inadequate to check the suppuration, and it will be necessary to frequently wash out and disinfect the frontal sinus. To accomplish this, it is usually necessary to first remove the anterior end of the middle turbinated body in order to be able to introduce a canula. Many of the solutions that have been employed for disinfecting and cleansing this cavity act well, but owing to the various pathologic conditions, all will sometimes necessarily fail. One of the cases that I shall report shows the good effects of simple measures, but another well illustrates the disheartening lack of results even with persistent treatment by the usual remedies, though it also shows the marvelous effects that may sometimes be obtained by the injection of a solution of from 3 to 8 per cent. of the preparation of silver known as protargol. In chronic cases of suppuration of this sinus, it is important to establish free drainage and it is sometimes necessary to open the frontal sinus and remove diseased tissues. When the milder endonasal methods have failed, success has sometimes been attained by opening the sinus through the naris with a Palmer drill, or with Krause's antrum trochar. Under normal conditions it would be difficult with either of these instruments to enter the frontal sinus in safety, but when pus has been pent up in the cavity for a long time, the parts are sometimes so distended that it is comparatively easy to make the opening through the naris. If the Palmer drill (Fig. 2) is used the opening will necessarily close by granulation, in two or three weeks, but if a Krause's antrum trocar (Fig. 3) is employed it is practicable to introduce through it a drainage-tube, as I have elsewhere described.[1] The best surgical procedure in such cases undoubtedly consists of making an external opening into the sinus, of considerable size, and then breaking down the floor of this cavity and establishing a free communication with the naris, which should be maintained by the aid of a large funnel-shaped drainage-tube; however, as shown in one of the cases that I shall report, even this method can not always be counted on to effect a speedy cure. The anatomic variations from a typical form, already mentioned, sometimes render any of these operations unexpectedly difficult and dangerous. To facilitate endonasal operations it is often necessary to reduce hyperplasia, to remove polypi, and to open the anterior ethmoidal or fronto-ethmoidal cells with the cutting forceps or curette. In chronic cases, even when there is no retention, it should be remembered that there is constant danger while suppuration exists in the frontal sinus, as it may cause thrombosis of the cerebral sinuses, meningitis, cerebral abscess or pyemia.

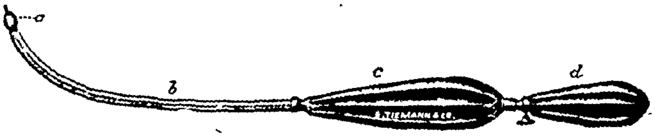

Fig. 2.—Palmer's frontal sinus drill.

In any case, when there are marked ocular, orbital, or cerebral symptoms, and in the more violent types of the disease which cause severe pain, an external operation should be done at once. When a radical operation becomes necessary it is customary to shave off the eyebrow and make a central incision through this region down to the bone, pushing back the periosteum until sufficient space has been denuded. After the soft tissues have been removed the bony wall may be opened either by a trephine, chisel or circular saw. Tilley's central vertical incision, advocated by Collier, is much in vogue at the present time. This cut is made in the middle line from the root of the nose, and extends two inches upward. Collier removes a button of bone by the trephine at the median line, thus exposing the mucosa of both sinuses. In this way he determines whether one or both are involved in the suppuration. Milligan prefers the unilateral operation. After the mucosa is exposed he makes a small opening in it and passes a probe into the sinus; if pus is found the mucous membrane is then cut away, the sinus opened widely, and if hyperplastic tissue or polypi are found these are throughly removed by a curette. The deformity resulting from these external operations on the frontal sinus is chiefly due to the sinking in of the soft parts. To avoid this, German operators, during the last few years, have opened the front wall of the

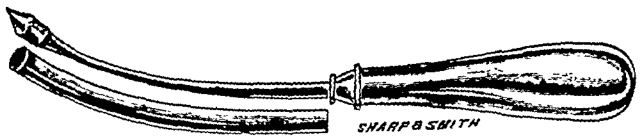

Fig. 3.—Krause's trochar.

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[1] Ingals: Dis. of Chest, Throat and Nasal Cavity, 4th Ed., p. 657.

sinus osteoplastically, that is, by creating a bony flap including the rim of the orbit. This flap is lifted upward so as to expose the sinus freely, and in addition the floor of the cavity is opened downward into the orbit so that all parts are freely exposed, permitting the removal of any diseased tissue that the sinus may contain. The bony flaps made in this way are reunited after a few days, while there is still hope of primary union. Some operators have contented themselves with opening the floor of the sinus only, but this does not give free access to the cavity; therefore, it should not meet with much favor. Where, on account of the extent of the disease, a very radical operation is indicated, both the anterior wall and the floor of the sinus can be removed, leaving a bridge of bone at the orbital edge. This operation is said to be followed by less deformity than that on the front wall alone, as the soft parts of the orbit help to fill up the space of the sinus cavity.

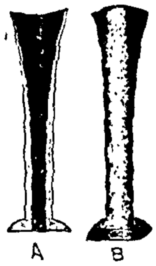

Fig. 4.— Flanged frontal sinus drainage tubes.

Having opened the frontal sinus above the orbit, the next step in the operation should be to establish free drainage into the nasal cavities. This may commonly be done with a Krause's bent trocar, which is passed from above downward into the naris, where it is met by the little finger introduced as a guide into the nostril of the affected side. This opening should be of ample size to allow the introduction of a large-sized, funnel-shaped drainage-tube, like that of Luc, or a modification, like the tube I employed in one of the cases that I shall report, having a flange on the lower end to prevent it from creeping up into the sinus (Fig. 4). In most cases this drainage-tube will have to be kept in place for weeks or months and, as in one of my cases, it is liable to creep upward into the frontal sinus notwithstanding the flange; therefore, it is best to leave a small opening externally which may be kept patent by a rubber tube flanged at both ends, like those recommended for drainage of the antrum of Highmore (Fig. 5). It is recommended that the external opening be closed at once, but patients will be unable to cleanse the frontal sinus from the nose; therefore, I think that a small external opening should be maintained in the majority of cases until suppuration ceases. It is often impossible to be sure whether the pus escaping into the nose comes altogether from the frontal sinus or from the ethmoidal or fronto-ethmoidal cells, consequently it is sometimes desirable to break down these cells, together with the floor of the sinus, by means of a gouge, in order to make very free drainage; even then granulations are liable to spring up which will soon close the opening; therefore, a large funnel-shaped drainage-tube should be introduced. In not a few cases the chief difficulty has been found in elimination of the ethmoidal suppuration and the maintenance of a free outlet into the nose. To overcome this difficulty, Barth, Winckler, and Killian recommend a temporary osteoplastic resection of the nasal process of the superior maxillary, and of the nasal bone. This procedure is carried out after the frontal wall of the sinus has been opened, by severing the nasal bone entirely from its fellow in the center, and extending the cut upward to the opening into the front of the sinus, then turning the flap outward like a door. Free access is thus gained to the nasal cavity and the floor of the sinus, which is totally removed and the suppurating ethmoidal and fronto-ethmoidal cells and all cavities clear back to the sphenoidal sinus, and even including this, are broken down and cleared out, if necessary. After all the diseased structures have been cleared away the flap is reunited in its normal position, and although the operation has been very extensive, it is said that healing occurs without much more deformity than in the ordinary operation. This operation is indicated when there is extensive suppuration, and in cases where the milder operations fail to effect a cure. In any of these operations great care should be taken not to puncture the cerebral wall.

Fig. 5.—Drainage tube for antrum (½ inch long).

The after-treatment consists of irrigation by warm boric acid solutions, followed by protargol in solution of about 5 per cent., or as strong as can be used without causing undue pain.. Among the instruments recommended for the operation are a small circular saw driven by a dental engine, which enables one to follow the incision in the line desired without shattering the bone. It is especially useful in saving the rim of the orbit. Dental burrs or nasal trephines may also replace the gouge or curette with advantage in some cases, as they are much better under the control of the operator; Krause's bent trocar is an essential aid. I have to report four cases, each illustrating one of the phases of this disease.

CASE 1.— Mrs. B. E. called on me with a history of catarrhal trouble confined largely to one side, which was of about three months' duration, though it had been much worse for two or three weeks. The affection had been exaggerated by chilly or damp weather and was attended at the time I first saw her by pain across the bridge of the nose. I found the middle turbinated body of the left side much swollen, with purulent secretion coming from the middle meatus. I made a diagnosis of suppurative inflammation of the frontal sinus. She was given a spray of a saturated solution of boric acid to keep the nasal cavities clean, and a 4 per cent. powder of cocain to reduce the swelling. The latter gave her great relief. The treatment continued for eighteen days, when it was noted that she had perfectly recovered. I have on several occasions since this first attack seen this patient when she was suffering from an acute frontal sinusitis without suppuration, but all attacks have been of short duration.

CASE 2.—Mrs. W. L. M. came to me complaining of supra-orbital pain and symptoms indicative of empyema of the antrum of Highmore. Her trouble had begun about six months previously. At times the supra-orbital pain would be severe for two or three weeks and then entirely disappear, but usually she had pain every forenoon, coming on about 10 o'clock and lasting for three or four hours. Upon examination I found free purulent discharge from the middle meatus of the left side. She told me that the antrum had formerly been diseased, but was now entirely well. She was given various antineuralgic remedies with but little relief. Monochloracetic acid was applied to the swollen tissues in the nares, and she was given mild antiseptic and astringent sprays to use at home, with a powder containing 3 per cent. of cocain and 25 per cent. of iodol. A portion of the middle turbinated body was cut away, which gave comparatively free discharge from the frontal sinus, after which she gradually improved. She continued the personal treatment faithfully, making the applications herself two or three times a day, and occasionally visiting my office. At the end of ten weeks I find it noted that she had been improving steadily and that there was much less discharge, while what did come was nearly all mucous. There was no longer any large accumulation as had been present at the beginning of the treatment. But two months later I find that there was renewed suppuration of the antrum of Highmore, which necessitated a permanent opening. In the meantime the suppuration of the frontal sinus and the ethmoidal cells had increased. The cocain was used sparingly, but astringent and antiseptic sprays were continued and the disease dragged along altogether between three and four years. Sometimes it was hardly perceptible, while at others there was considerable discharge and supra-orbital pain, but finally the patient recovered without opening the frontal sinus, an operation to which she would not consent.

Case 3.—Mr. S. M. H. came to me with a history of having been attacked, something over a year previously, with very severe pain in the frontal region of the right side. He had been told at that time that he had a polypus in the nose. He had received various internal and local treatments, and had considerably improved at the end of five weeks, but for several years previously he had been annoyed by considerable catarrhal discharge from the nasal cavities, and this had been aggravated since the beginning of the pain above the right eye. I found the lower portion of the left naris normal, but the middle turbinated body was pressing against the septum. The middle meatus of the right side was filled with polypi and purulent secretion and the body pressed against the septum. The inferior portion of the naris was normal. A diagnosis of suppurative ethmoiditis was made, to which was subsequently added the diagnosis of suppuration of the frontal sinus. The right antrum of Highmore finally became involved and it was necessary to make a permanent opening. This patient was under my care off and on, seeing me from once to twice a month or less frequently for a period of something over ten years. During the time various antiseptics and detergent sprays and washes were used for the nose, together with antiseptic and astringent powders. The suppuration of the antrum healed, the polypi were all removed, the middle turbinated body of the right side was removed and for several months, at the infrequent intervals when I saw the patient, the frontal sinus was washed out with a mild solution of peroxid of hydrogen and boric acid. The patient developed marked arteriosclerosis with distinct signs of atheroma of the aorta, and frequently suffered from rheumatic pains. He would never consent to a radical operation on the frontal sinus. All of this time the suppuration in the frontal sinus continued. On September 25, last, I injected into the frontal sinus, by means of a long silver nozzle attached to a large hypodermic syringe (see cut), about a dram of a 10 per cent. solution of protargol in warm water. The opening was large enough so that all of this could escape within a few hours at most, but it gave the patient a severe headache which lasted all day. Four days later I applied, in the same way, about the same amount of a 5 per cent. solution of protargol, and this application was repeated once in from three to four days, five times, when a 7 per cent. solution was applied, but this gave him severe pain. I then applied the 5 per cent. solution again, and at the next visit, thirty-five days after the first application, and when it had been applied only nine times altogether, it is noted that there is very little muco-pus coming from the frontal sinus. The 5 per cent. solution was applied two or three times more, after which I was never able to detect any purulent discharge, though a little mucus was usually found near the opening of the canalis naso-frontalis whenever I saw him, at intervals of about a week. It was found that even the 5 per cent. solution caused too much pain, and I was obliged to reduce the strength to 3 per cent. The remedy appeared to check the suppuration entirely in a sinus where empyema had been present over ten years. This was within a period of two months. Nevertheless, neuralgic pains still occur daily over the orbit.*

Case 4.—Mrs. B. J. K. came to me with a swelling in the supra-orbital region, extending to the root of the nose. This was ovoid in shape and about one-half inch in thickness at its most prominent part. From the history the trouble appeared to have begun about four years previously. She complained, during this time, of severe supra-orbital pain. She stated that she had had a considerable nasal discharge all of her life. On examination I found the left naris normal and the right free, excepting that the middle turbinated pressed against the septum. There was no apparent discharge. She told me that she had had some polypi removed about eighteen months previously. I made a diagnosis of empyema of the frontal sinus and recommended an external opening with free drainage into the nose. Dr. Bevan made an opening extending from the root of the nose up into the eyebrow of both sides. The sinus was opened and we found a large cavity, fully an inch in its antero-posterior diameter and extending laterally about three inches. There was no septum between the two sinuses and the posterior bony wall had also disappeared so that the pulsations of the brain against the dura were marked. The cavity was packed with iodoform gauze and the wound closed, excepting at the root of the nose. A week later I gave the patient an anesthetic again, and with my little finger in the right naris passed a bent Krause trocar 6 mm. in diameter from the lower portion of the frontal sinus into the nasal cavity. Through this I introduced a drainage-tube, funnel-shaped at the top, with a flange at the bottom and an internal diameter of about one-eighth of an inch (see cut). The cavity was washed out daily, and as this part of the treatment had to be left largely to the patient, I decided to keep the opening in the forehead patent, for it was impossible for her to wash it through the naris. A few weeks later I introduced into the opening in the forehead, a drainage-tube such as I employ in the treatment of empyema of the antrum of Highmore, with a flange at each end. The end of this tube was kept covered with cotton when she was not washing out the cavity. Peroxid of hydrogen, boric acid and various other antiseptic and astringent washes were employed, and equal parts of boric acid and iodoform were insufflated into the sinus daily for months. There was no possibility of obliterating the cavity, therefore this treatment was continued for about a year, when I had the satisfaction of noting that there was very little, if any, purulent discharge. In the meantime the drainage-tube, notwithstanding the flange at its lower end, had worked up into the frontal sinus and had to be removed through the small opening in the forehead. Another tube with a larger flange was introduced, but this also worked out after five or six weeks. I then introduced a longer tube with a flange at the upper end only, which was to prevent it from falling down into the nose. The lower end of this tube came down to the floor of the nasal cavity. This tube kept its position very well, though on two occasions I found that it had nearly crawled into the frontal sinus. It did escape into the sinus at the end of sixteen months after the operation, but by this time there was little, if any, purulent discharge, and the canal into the nasal cavity, which was about 4 mm. in diameter, appeared to me to be sufficiently free to allow the withdrawal of the tube. During the treatment considerable granulation tissue had to be removed from the right naris. When I last saw the patient, seventeen months after the operation, there was no distinct suppuration in the frontal sinus, though there was a very small amount of muco-pus which readily discharged into the right naris. At this time, and once a month previously, I used a 5 per cent. solution of protargol, and she was given the same to use at home as a wash. The external opening, about 8 mm. in diameter, was still maintained and she preferred not to have it closed until all secretion had ceased. I have not seen the patient for the last seven months.

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FORMOL FOR THE PREPARATION OF ANATOMIC SPECIMENS.—The *Revista de Med. y Cirurgia,* of May 25, calls attention to the remarkable properties of formol for the preservation of eyeballs. It is also superior to all other known substances for the preservation and hardening of nerve tissue.

ANOMALIES OF THE FRONTAL SINUS AND THEIR BEARING UPON CHRONIC SUPPURATIVE SINUSITIS.*

REDMOND W. PAYNE, M.D.
SAN FRANCISCO.

My experience with chronic suppurative disease of the frontal sinus has been so unsatisfactory, regardless of the method of operation adopted, that I determined to find, if possible, where the fault lay. The necessity for this investigation was doubly impressed upon me from the fact that I found my colleagues in practice were likewise having the same experience with their cases. I speak now only of those old cases of chronic suppurative disease with rather free drainage of the inflammatory products into the nose, and of the small percentage of these where there is retention of the inflammatory products. Recent cases are readily handled by almost any one of the extranasal methods adopted, but when the process has been of long duration and every recess of the sinus has become involved, the whole lining membrane pyogenic, and in places gangrenous, and, in very old cases the bone itself involved, the problem of eradicating the disease becomes exceedingly difficult. Most of these old cases, as I have said, drain rather freely into the nose, producing no other discomfort, as a rule, than the discharge of pus into the nasopharynx or the development of polypi and other nasal conditions. The rule is that the process has gone on for a number of years, and the patient consults us for the relief of these nasal and the nasopharyngeal conditions, little suspecting that the source of the trouble lies in the frontal sinus, hence any operative measure directed toward the frontal sinus should be with the purpose of completely eradicating the disease found there and not simply providing for freer drainage. To do this requires that every recess of the sinus be reached, all diseased tissue curetted away and, if the lining membrane has become gangrenous, then its entire removal and the obliteration of the cavity. I

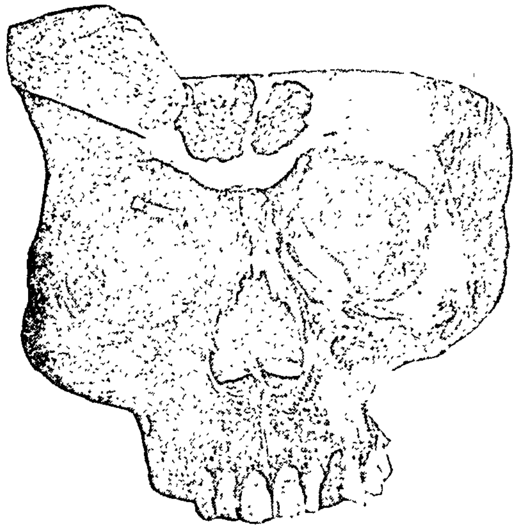

Fig. 1.—Although our standard authorities usually refer to the frontal sinus as varying much in size, the sinus in this case is about that usually shown in most drawings and demonstrations. We are further left to believe the inner plate smooth and the cavity shallow; this is the case even in so beautiful and extensive a work as Deaver's recent "Surgical Anatomy." The right sinus in this case is at least four times the size of the left, very deep, backward as well as downward.

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* Read in the Section on Laryngology and Otology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

have not found it possible to do this by any operation short of removing portions of the anterior plate and exposing the whole field. Any attempt to treat such cases through the infundibulum has always appeared to me very dangerous, and certainly very unsurgical, and would always be condemned if we but recalled the the structures with which we were dealing, the exceedingly thin internal plate and orbital wall and the pinhole caliber of the ducts through which we expect to get drainage. Intranasal methods by which an opening is forced through the floor of the sinus only provide freer drainage and can accomplish nothing else. Through such an opening one can reach but a very small part of the diseased cavity, and that very uncertainly.

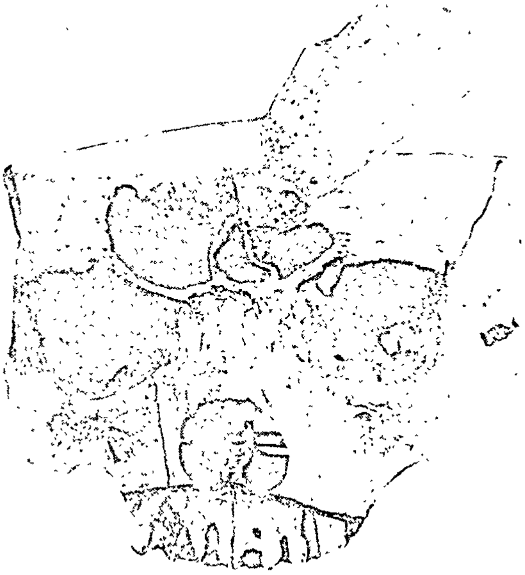

Fig. 2.—In this case we have three distinct sinuses, the right one much larger than the other two. The walls exceedingly thin, in fact, there is no part of the internal plate which one can not see through very readily. The floor of the right leads at once to the superior opening of the infundibulum; the middle and left sinuses lead through two separate and distinct, though very tortuous, compartments to the superior opening to the left infundibulum.

Jansen's operation for the removal of the orbital roof and Walker Downey's plan of closing the original wound and bringing the gauze out through an opening made at the internal canthus both threaten cicatrices which may seriously *deform* the lid, especially if the wound is to be kept open any length of time.

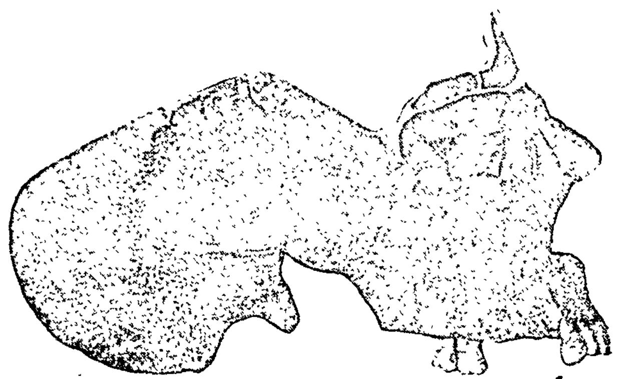

Fig. 3.—This is an example of the great depth posteriorly, to which some of these sinuses reach, extending backward over the roof of the orbit almost to the optic foramen; note also the exceedingly thin orbital plate, roof of the orbit, and floor of the sinus, in this case as thin as paper; note further that this extension of the sinus backward is divided into two cavities by a thin vertical septum running across its center.

I will not touch upon the various *means of arriving* at a diagnosis of old suppurative disease of the frontal sinus, except to say that the only positive one is by making an exploratory opening, an incision in the line of the eyebrow, extending from the root of the nose outward. Only a small opening in the anterior plate is necessary, and if a suppurating sinus is found I have come to believe a modified Kuhnt's operation best, where, instead of removing the whole outer plate so radically, which always leaves more or less of a depressed scar, I make successive openings, exposing every part of the sinus and leaving bridges of bone to support the skin. Another modification I find very necessary is to leave two openings, one at the external as well as one at the internal angle of the wound. This provides for very free irrigation. The external opening must be placed at the limit of the external angle of the sinus. If the cavity is large and the disease of long duration permanent drainage is secured by making a large opening into the nose along the line of the infundibulum, and the recesses of the cavity wiped over with a 20 per cent. solution of chlorid of zinc. The two external wounds which were left for irrigation are closed in from five to six days, the edges freshened and brought together carefully with a trifling scar. Care should be taken to have the patient avoid blowing the nose for two weeks after final closing of the external wound.

My results have been much better since following this plan. Every recess and diverticulum, however, must be reached. I have found it necessary to have *made curettes of various sizes,* on shanks of varying lengths and angles, in order to reach every point. The necessity of this detail will be readily appreciated by referring to the photographs I present of the many anomalies of the sinus which one may have to deal with in *such* cases. These anomalies may also account for our failure to eradicate the disease in certain instances.

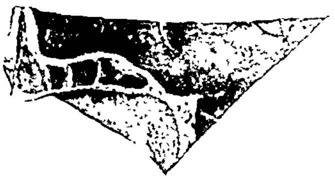

Fig 4.—This is another example of a very deep sinus extending backward almost to the apex of the orbit, and with exceedingly thin walls; note that this sinus is divided into four distinct compartments from before backward, by three thin vertical septa running across the sinus from side to side.

DISCUSSION ON PAPERS OF DRS. INGALS AND PAYNE.

Dr. Edward T. Dickerman, Chicago—I have recently completed a series of sections of the frontal sinus and the naso-frontal passage, the results of which may be of some diagnostic value. These sections were made upon 50 heads, or practically 100 naso-frontal passages. In about 40 per cent. of the cases the infundibulum ended practically in the naso-frontal canal. In 60 per cent. of the cases the opening into the frontal sinus from the nose lay in a plane internal to the infundibulum and, in the majority of cases, was practically an ostium. In three *cases there were found to* be no frontal sinus on one side, there being only an indication of it in the way of a very small anterior ethmoidal cell. In one case there was *no frontal septum*, one large frontal sinus occupying the place of both. One other section was very interesting to me. The right frontal sinus had two distinct openings, one opening being the normal naso-frontal passage, while there was also a tortuous canal leading into the left nasal cavity. In two cases there was direct communication between the frontal sinus and the maxillary antrum. These points are all of some importance in diagnosis of infection of this sinus and in the treatment of them.

Dr. Casselberry—In what proportion of cases was there a perforation of the frontal septum?

Dr. Dickerman—In 2 per cent. was there a direct communication between the frontal sinuses. In 1 per cent. there was an absence of the frontal septum, and in three cases the frontal septum consisted in part of a membrane only.

Dr. E. Fletcher Ingals, in closing—I wish the gentlemen would read the parts of the paper that for lack of time I was forced to omit, as the subject is of great interest. President Harper, of the University of Chicago, told me of an acquaintance who said that whenever he wished to learn anything thoroughly he wrote a book on the subject, and I have had a similar experience in preparing this paper.

Dr. R. W. Payne, in closing—We are all familiar with chronic suppurative diseases of the frontal sinus, and no doubt many of us have had failures whatever the method adopted for its cure. The investigation I made brought out a number of anomalies that explains the very deep recesses we find in many cases, and which we do not reach unless the operation is very radical and every corner of the cavity explored. These anomalous cavities and recesses also probably account for most of our failures in old suppurative cases.

ASTHMA AS A RESULT OF NASAL CONDITIONS.*

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The frequency of asthma as a result of a diseased nasal condition has so often been brought to my notice that I feel hopeful of effecting a cure in every case of this distressing malady that consults me. Unfortunately, I am occasionally disappointed, but only in a small minority of my cases. I will not go into the pathology of the disease, but will report the results obtained in selected cases not previously reported. I have found that cases of asthma in children under 10 years of age have, after the removal of the offending adenoids, given the best results.

While we, as rhinologists, know what a normal nose ought to be, we are not aware of the exact amount of deviation from the normal which may exist without discomfort in any given case. I find that it is difficult in many cases to know just what is the offending point within the nasal chamber. A deviated septum, hypertrophied turbinate, septal spur, or polypi individually or grouped, are at times the source from which the trouble arises. In cases of asthma it is my practice to remove all pathologic conditions and abnormalities. I have nothing new to offer in the matter of technique. The snare, curette, knife and saw are used in appropriate cases with equally good results. I have almost entirely put aside the galvano-cautery in nasal work. Suprarenal capsule extract, and its newer preparation, adrenalin, make the field of operation practically bloodless, and with ordinary surgical care and cleanliness my results are more satisfactory with the cutting instruments. The usual slow-healing ulcer and frequent irritable scar tissue of the cautery are avoided.

Prof. William Osler, of Johns Hopkins University, says: "Still physicians must acknowledge the debt which we owe to Voltolini, Hache, Daly, Roe and others, who have shown the close connection which exists between affections of the nasopharynx and many cases of bronchial asthma." Granting that asthma be due to vasomotor paresis and bronchial spasm, and admitting the alteration of the nerve centers with predisposition to nervous disturbance in the bronchial region, it is fair to assume that nasal as well as other forms of peripheral irritation may reflexly produce the asthmatic paroxysm. The irritation within the nose may be brought about by inflammatory pressure on the terminal nerve filaments in the mucosa, or may be due to turgescence of the erectile tissues caused by transmitted vasomotor alterations from distant parts of the economy.

There is nothing peculiarly pathognomonic in the symptoms or physical signs of nasal asthma, the paroxysms being identical with those due to other lesions. In the search for the underlying cause of the bronchial spasm, eliminate cardiac trouble, renal disease, gastric and intestinal disturbances, chronic bronchitis, rheumatism and gout, "then examine the nose."

My experience is in keeping with Bosworth, Kyle and other authors, that a large majority, if not all, cases of asthma, are due to some lesion in the nasal cavities. Because all cases of asthma are not cured by the removal of all diseased conditions and abnormalities discovered in the nasal chambers, we must not necessarily conclude that this is not the offending organ. We frequently find polypi that we can not remove, and more frequently, undoubtedly, we fail to discover abnormal conditions. I have a patient, a lawyer, aged 37, who had suffered with asthma from childhood, seldom a week passing without a severe attack. I removed several polypi, giving great relief. He continued to have slight attacks, until I removed a small septal spur, which effected a complete cure.

Anna C., aged 14, had suffered from asthma for nine years, the attacks being severe and frequently lasting for three days. The removal of profuse adenoids by the curette, and a septal spur with the saw, brought about a complete cure of her asthma, and a very rapid improvement in her general health. Her parents say she has grown more in the past year than in the previous five. Her mother stated that the first attack of asthma followed a "broken" nose, caused by a fall from a swing. I have found that a very rapid improvement in the general health of all children followed their relief from asthma.

H. L. G., aged 54, consulted me for asthma, examination revealed a greatly enlarged turbinate, pressing against the septum. He has been cured for nearly two years by the simple operation indicated.

I am sure that as our technique and methods of examination improve, our results in asthma will be greater. The simple operative methods we outline give permanent cure to a majority, and relief to a great number of others.

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DISCUSSION.

Dr. G. N. Jack, Depew, N. Y.—I have done a great deal of special work along this line and I have yet to find a case of nasal asthma. That is to say, I have yet to find a case of asthma that was due wholly to any nasal complication. It has been my experience that the etiologic factor in asthma lies in the blood. The nerves and lungs take no part in any of the phenomena of asthma other than in the performance of their physiologic function. I have found three pathological lesions in the blood that will produce asthma, namely lymphocytosis, the asthmatic leucocytosis, and the anemic variety. Each of these three different blood dyscrasias produce distinct types of asthma, and there I think is one of the causes of so much complication and doubt in regard to the subject of asthma.

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* Read in the Section on Laryngology and Otology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

Asthma due to lymphocytosis is a variety of asthma chiefly found in children, especially nurslings, and the blood count in all the cases I have investigated has shown a decided lymphocytosis. In one case the blood count showed 93,500 white cells, 70 per cent. of which were lymphocytes, and a vast majority of these lymphocytes were small, showing that they had come directly from the lymph channels and the chyle. The reason for the dyspnea in this variety of asthma is twofold: 1. A sufficient amount of oxygen can not reach the lungs, owing to the narrowed respiratory tubes, including the pharynx, larynx, trachea and bronchi, due to the collateral engorgement of their lymph channels. 2. The oxygen that finally reaches the lungs is handicapped in reaching the hemoglobin in the blood, owing to the hemoglobin being so thickly surrounded by lymphocytes.

Local treatment may do some good, but systemic treatment will do most good. The leucocytic variety of asthma I have found chiefly in adults and it usually starts from an intestinal indigestion and toxemia which cause a toxic leucocytosis, and an enlargement of the glandular structures of the larynx and trachea.

The glandular enlargement first appears in the larynx and is usually most pronounced during an attack following a long period, perhaps months, of freedom and not infrequently this enlargement will manifest itself in the patient weeks before an attack through the snugness of his collar and change of voice.

When the attack first begins, the obstruction and wheezing is confined entirely to the larynx. After a few days the laryngeal glands undergo a revolution and softening and the laryngeal dyspnea disappears, with the expectoration of mouthfuls of thick, viscid mucus containing Curschmann's spirals, leucocytes and eosinophile cells. There has always been a doubt as to the origin of Curschmann's spirals. They always appear in the sputum first exuded in the leucocytic variety of asthma, whether this sputum comes from enlarged laryngeal or tracheal glands, but owing to the fact that they appear in the sputum coming from the enlarged laryngeal glands *before* the process has extended further down, proves conclusively that they do not in any case originate in the smallest bronchioles as their casts, as heretofore supposed. The anemic variety of asthma we find chiefly in the extremes of life. It comes on night after night simply from the lack of the action of sunlight on the blood. There is an individual peculiarity of the anemic asthmatic. The dyspnea is not alone due to the small amount of hemoglobin in the blood, but also to the fact that the hemoglobin does not readily absorb or carry oxygen, and this is in fact due to a deficiency in animal magnetism. The lack of the chemical effect of sunlight on the blood often proves to be the last straw. Altitude, by increasing the blood count, will in this variety effect an immediate cure.

Dr. Casselberry—I would like to know in which class the Doctor would place the asthma found in connection with hay fever?

Dr. Jack—I think there is a close association between hay asthma and the leucocytic variety of asthma. I have in many cases found a leucocytosis in hay asthma, and I am of the opinion that pollen dust will, in susceptible cases, produce a leucocytosis sufficient to bring on an attack of asthma.

Dr. Emil Amberg, Detroit—Blood counts have been made in cases of adenoids and it has been seen upon investigation that after an adenoid operation the conditions of the blood became more favorable. If merely the toxic effects in the blood were to account for it we should not expect this. If the symptoms appear to be due to mechanical obstruction and if the removal of the adenoids improves the symptoms, we may as well come to the conclusion that the mechanical obstruction furnishes the cause and that the changes in the composition of the blood must be regarded as the effect, and not vice versa.

Dr. J. F. Barnhill, Indianapolis—I should like to ask the gentleman, who had the floor before the last speaker, in what specialty he is practicing and from what field he has made his observation. I make that query because rhinologists have given long lists of cases in which they have cured asthma by operation alone. Some time ago I wrote to the professors of medicine in each regular college in the west, asking whether, in his experience, asthma had ever been cured by internal medicine alone, and there was in every instance a negative response.

Dr. Jack—I am in general practice.

Dr. J. H. Farrell, in closing—It is all very well to go into the discussion of the blood in the production of asthma, but facts are very stubborn things. In my experience, as well as in the experience of men of longer practice, cases of asthma are often cured by operation. When in general practice I saw many cases of asthma, but I never saw a case in which the attack could not be cut short by the hypodermic injection of ¼ gr. of morphin, and 1-100 gr. of atropin. In Arizona I saw many cases, but I never saw a case cured by the change of climate, except such as we could attribute to the absorption of inflammatory conditions in the nasal chamber.

AN UNUSUAL ANOMALY OF THE FAUCIAL TONSIL.*

GEORGE L. RICHARDS, M.D.
FALL RIVER, MASS.

The patient was a woman, 60 years old, who reported that her throat had been paining her for the past two years, and that for a long time, almost as long as she could remember, she had had more or less discomfort in the region of each tonsil. The right was found to be somewhat hypertrophied, and she had pain running to the ear from this region. She did not at first want the tonsil removed, and was treated for some weeks with chromic acid applications. This was followed by some improvement in the sensation. Later she consented to the removal of the right tonsil; the left one was not large. On applying a tonsillotome I was surprised to find that I was unable to cut through the tonsil, and on examining with the finger found that a bony mass penetrated the tonsil almost to its outer border. This was removed with a stout bone-cutting forceps, and on being examined was found to be a portion of the styloid process, the center of the bone showing a distinct marrow. I examined the other side with the finger, and found that, though not so prominent, the tip of the process could be felt through the left tonsil as well.

Not having seen any literature in reference to anything of the kind, I wrote to Dr. Thomas Dwight, professor of anatomy in Harvard University, in regard to the matter, and received from him the following reply:

"Your case is a very interesting one. I do not remember of hearing of a styloid that touched the tonsil, and yet I have not the slightest doubt that you had to do with a styloid, and the explanation is simple enough. Long styloids are not uncommon; and remarkably long ones are due to the ossification of the stylohyoid ligament. On its way to the lesser horn of the hyoid it must pass very close to the tonsil. There is in the museum a skull in which this is ossified throughout, though, I think, with one interruption on each side between the skull and the hyoid. I saw to-day a temporal bone with a styloid, the point of which was nearly two and one-half inches from the lower border of the external auditory meatus. This must have reached to the level of the tonsil.

"It is perfectly in accord with all we know of the process of growth of organs, that if a bony structure should encroach on the domain of adenoid tissue the latter should, so to speak, fold itself around it."

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* Read in the Section on Laryngology and Otology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

If any member of this Section, or any reader, has seen anything similar, I would esteem it a favor if he would inform me as to the circumstances of the case.

THE EFFECT WHICH THE SO-CALLED CATARRHAL DISEASES OF THE NOSE AND THROAT MAY HAVE UPON THE GENERAL HEALTH.*

CAROLUS M. COBB, M.D.
BOSTON, MASS.

> Myself when young did eagerly frequent
> Doctor and saint, and heard great argument
> About it, and about; but evermore
> Came out by the same door wherein I went.

Thus sings that old cynic Omar Khayyam, and Omar's criticism of theologic discussions applies with more or less force to medicine. It is so much easier to accept an explanation already made, than to think about the reason for ourselves, that what argument we hold is likely to be about the details or variations of already existing theories, without much inquiry whether they may be right or wrong. The explanation of any local disease which we do not thoroughly understand, and therefore fail to treat successfully, is simplicity itself. We say, with many variations of the wording perhaps, that it depends on the state of the general health. This explanation is very satisfactory to the patients and their friends, and it saves the physician the labor of finding the true cause for the condition. We are rarely very definite in our statements as to what the condition of the general health may be, and when we do come down to particulars, we are quite likely to think that the patient has the then fashionable disease. Fashions change in disease as they do in dress; just now the uric acid diathesis is a prime favorite; a few years ago it was congestion of the portal circulation.

In the treatment of disease of the nose and throat, we constantly meet with the explanation that the local disease depends on some disturbance of the general health. This has been so often and so confidently asserted, and so generally accepted, that it may seem too radical a statement to make, that the diseases of the nose and throat are not often caused by general conditions, and, further, that they are often the cause of the very state of the general health, which has been supposed to produce them. The exceptions to this statement are, syphilis, tuberculosis, rarefying osteitis, and some of the rarer forms of disease. The acute exanthematous diseases, as well as pneumonia and influenza, have not been considered because the involvement of the nose and throat is a part of the general infection. Certain conditions, as anemia and lowered vitality from whatever cause render the tissues more vulnerable, and other conditions which produce congestion, as indigestion, constipation, menstruation, may and often do cause an exacerbation of an already existing disease. This statement of the position which the state of the general health occupies as a cause of local disease, is perfectly consistent with the idea of the bacterial origin of the acute diseases of the nose and throat, and we have every reason to consider most of the so-called catarrhal diseases the sequelæ of the acute attacks. If we believe, as all progressive physicians to-day do, that most acute and many chronic diseases depend on germ infection, then the relation of the diseased conditions of the nose and throat becomes of the utmost importance.

Assuming the infectious origin to be accepted, the question then is: In what way do the bacteria gain entrance to the system? The principal ways in which this takes place are through wounds, or through the respiratory, digestive, or genito-urinary tracts. Of these different routes of infection, we will consider only the respiratory. During normal respiration through the natural passages, Nature has thrown up a barrier, which not only prevents the entrance of the bacteria to the deeper parts of the respiratory tract, but warms and moistens the inspired air as well. When this barrier is rendered inoperative by disease, or by nasal obstruction, the throat and lungs are exposed to the danger of infection. If, in addition to this loss of function of the nasal mucous membrane, there is a constant discharge of mucus or pus into the pharynx, the probability that the general health will be affected is very much greater. The effect that diseases of the nose and throat have upon the surrounding parts, as the ears, eyes, larynx and bronchial mucous membrane, and as a cause of headache, is a well-recognized clinical fact. If we attempt to analyze the different ways in which disease of the nose and throat may affect the general health, the subject naturally divides itself into two parts, 1, the effect that may be produced by obstructed nasal respiration, and 2, the effects produced by the migration of bacteria or by the absorption of the products of their action.

Under the first division we find those effects which are produced by mouth-breathing, such as anemia from lack of oxygen, disturbances of sleep, aprosexia, maldevelopment of the face if the mouth-breathing is established in early life, and frequent attacks of inflammation of the oropharynx, the tonsils, the larynx, and the bronchial mucous membrane. The effect upon the nervous system, of nasal obstruction, is marked, and varies in different cases through a wide range of symptoms, the most prominent of which are mental dulness, loss of memory, irritability and chorea. The effects produced by mouth-breathing are too common and have been too often reported to need more than a passing mention.

The second division needs more extended notice, because, while the effects may be no more serious, the connection between the local disease and the general condition is more likely to be overlooked. The different ways in which a nasal or nasopharyngeal discharge may affect the general health are: 1, the extension of the inflammation on the surface of the mucous membrane, either to the skin, where it causes excoriations of the skin, or more severe inflammation, as erysipelas, acne, etc., or to the larynx and bronchi, causing in this way protracted attacks of laryngitis and bronchitis. There is no doubt that this extension of the disease occurs, and it is probable that most of the cases of chronic laryngitis not caused by mouth-breathing, depend on disease higher up in the respiratory tract. The bronchial mucous membrane is involved in a large percentage of these cases and, where the bronchitis has this origin, the treatment is unsatisfactory unless the disease of the nose and throat is treated also. An illustration of the failure of treatment directed to the general health, and to the bronchial mucous membrane only, is seen in those cases of winter cough which finally run on to the so-called twenty years' consumption. These patients have usually taken, literally, barrels of expectorants and emulsions, and very few of them have ever had any attempt made to control the disease higher up in the respiratory tract. Hajek's statement that it is better for the patients to have the fluid removed from the facial cavities, than to send them from a summer to a winter cure, where the symptoms are lightened, but the disease is in no way cured, is worthy of notice. I can add only that every case of chronic bronchitis should be subjected to a searching examination of the nose and throat, and if disease is found there it should be treated. By doing this, I am certain that many patients can be cured who are now thought incurable.

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* Read in the Section on Laryngology and Otology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

The second result of a chronic postnasal discharge is the inevitable swallowing of a considerable quantity of this mixture of mucus and muco-pus. That this takes place no one denies, and I am convinced that most, if not all, of the indigestion from which these patients suffer is caused, or at least aggravated, by this cause. Patients who have suffered a long time with postnasal catarrh are often thin, pale, and dyspepetic, and the indigestion is usually rather intractable, so long as the discharge continues. I have seen so many patients who have voluntarily reported that their indigestion was much better as soon as the nasopharyngeal discharge ceased, that I am forced to believe that the swallowing of the secretion has a decidedly bad effect upon the digestive process.

The third effect of the presence of disease in the nose and throat upon the general health, which I wish to discuss, is the migration of bacteria to the surrounding parts and to distant parts of the body. This very important phase of the question has been studied by such men as Ross, Stabell, Otto Seifert, Emil Mayer, Frederick Packard, A. L. Loomis, R. C. Cabot, and many others, who have reported cases of acute rheumatism and endocarditis as direct results of acute tonsillitis. Ziem reports a case of muscular rheumatism which was caused by chronic antral disease, and the disappearance of the rheumatism without treatment after the cure of the antral disease. He also maintains that nasal suppuration may cause abscess of the bones of extremities, or of the joints, and advises examination of the nose and sinuses in all such cases of obscure origin. The fact that a collection of pus in the nasal cavities may be a grave menace in surgical operations is just beginning to be recognized. In this connection H. O. Pantzer says that he believes the septicemia which followed a colotomy in one of his patients had its origin in a nasal disease. This statement is rather a hard one to prove, but it is nevertheless suggestive of a possible source of infection following surgical operations. The fact that migration of bacteria to the surrounding tissues and to distant parts of the body does occur during the course of acute and chronic disease of the nose and throat, has been established by such a number of observations of the leading men in the profession, that it seems hardly necessary to multiply proofs. This migration probably takes place in one of two ways, either through the lymphatic system or through the blood circulation. The first of these routes is the more common, the infection following the flow of the lymph current and causing in this way the involvement of the surrounding tissues. Infection of the lymph current may also be the source of the contamination of the blood current through the anastomosis of the lymph channels with the venous circulation; this will be alluded to later, when we come to consider the infection of the blood circulation. It is possible that infection can take place against the lymph current, but I have never observed it, and I think it not probable. The swollen tissues and enlarged glands of the neck, during the course of acute and chronic diseased conditions of the nose and throat, are illustrations of the migration of the bacteria by the lymph current, that all are familiar with. I wish in this connection to call attention to the purulent rhinitis of children as a source of infection causing cervical adenitis. I went fully into this subject in an article in the *Boston Medical and Surgical Journal* of Jan. 10, 1901. The second route of infection, that through the blood, is more rare, and occurs through the anastomosis of the lymph channels with the venous circulation, through the erosion of a small blood-vessel, which is in contact with the pus collection, or through venous thrombosis, in the same way as a thrombosis of the lateral sinus occurs in mastoid disease. When the infection has once gained access to the blood, it does not differ materially from infections from other sources. The quantity of the infective material from the nose and throat is perhaps not so large as that from other sources, but in other ways it acts the same.

The fourth way in which diseased conditions in the nose and throat may affect the general health is by the absorption of the toxins which are the result of bacterial life. This subject is so intimately connected with the actual migration of bacteria, that it is often impossible to determine which has actually occurred, except by the progress of the resulting disease. The diseases resulting from the absorption of toxins are generally of shorter duration than are those which are the result of the migration of bacteria, but the depression is perhaps greater in the toxemia. When toxins are absorbed every secreting surface in the body participates in the effort to excrete them, and from this participation we obtain a variety of diseases, that apparently are not related, but which in reality have the same source. Many of the transient cases of acute rheumatism, of nephritis, of pericarditis and of pleurisy following the acute inflammations of the nose and throat are examples of this effort of the system to free itself from toxins. Of equal and perhaps greater importance is the condition of chronic sepsis from which many of the patients with chronic purulent disease of the nose suffer. They are marked examples of the condition of the general health, which is supposed to cause nasal catarrh. If we found a collection of pus in any other part of the body, associated with this condition of the general health, we should, and rightly, assume that the patient had sepsis as a result of the pus absorption, but when we find precisely the same condition in connection with a purulent collection in the nose, we put the cart before the horse and say that the state of the general health is the cause of the purulent discharge. I have not considered the functional nervous accompaniments of the diseases of the nose and throat, the so-called reflex nervous systems, not because they are not real enough and distressing enough, but because it seemed better at this time to limit our inquiry to such diseases as had a definite pathologic basis. The field which I have attempted to cover is so far-reaching that it is impossible to more than call attention to a few salient points, and it is only by the reported observations of those who are interested in the subject that we shall be able to judge the extent of the subject. Enough has already been done to show that the acute and chronic diseases of the nose and throat are a grave menace to the general health, and that they may also be a source of infection in surgical operations. The conclusions to which I wish to call attention are:

1. Diseases of the nose and throat affect the general health through obstructed nasal respiration, or by extension of the diseases of bacterial origin.
2. The diseases of bacterial origin affect the general health: *a*, by extension upon the surface membrane; *b*, by the migration of bacteria to surrounding tissues or to distant parts of the body; *c*, by swallowing of the discharge; *d*, by the absorption of toxins.
3. The migration of bacteria takes place through the lymph current, or through the blood.
4. Septic infection originating from disease of the nose and throat does not differ materially from infections from other sources.
5. Much of the indigestion from which these patients suffer is caused or made worse by the swallowing of the secretion.
6. A condition of chronic sepsis may be caused by a purulent collection in the nasal chambers or accessory sinuses.

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DISCUSSION OF PAPERS BY DRS. RICHARDS AND COBB.

DR. W. E. CASSELBERRY, Chicago—I would first refer to Dr. Richards' paper. At the Atlanta meeting a few years ago, Dr. Sterling stated that he would be glad to show in his office three cases of "bone in the tonsil" which he would like to have elucidated. It was suspected at the time that there might be some delusion in the matter and a committee was appointed, of which I was one. Dr. Sterling had tried to make a tonsillotomy in one case and had encountered the bony projection. They were all cases in which the styloid process was rather long and turned in the direction of the tonsil, projecting into it.

With reference to the evil effect of catarrhal conditions of the nose and throat on the general health, I think that side of the subject will bear some emphasis, for we have heard so much on the effect of the general health on local conditions. The essayist has ably supported his contention that local diseased conditions are capable of producing systemic disease, but I do not think that we should therefore decide that systemic disease may not cause or aggravate catarrhal states of the nose. I recall cases, recovering from acute disease or cases that were run down from confinement indoors in which the general debility would seem to have caused vasomotor debility and disturbance in the nose with discomfort from over-secretion and obstruction, which discomforts passed away as the patients regained strength and vigor. In this connection we also recognize the importance of the uric acid diathesis, or whatever it may be called, whether due to uric acid or the alloxuric bases. Treatment directed towards a better mode of life and more active exercise demonstrates that this systemic state has an influence, especially upon chronic pharyngeal and nasal inflammations. That certain systemic conditions do produce local diseases, we need only instance syphilis, which has local lesions in the nose. There are doubtless other constitutional states with local lesions in the nose. The proposition which the essayist demonstrates in his paper is certainly important. The absorption of material from the sinuses produces a systemic state of toxemia which is associated often with an afternoon temperature, and produces anemia; it may even lead to confusion in diagnosis between it and tuberculosis of the lungs. We should be particular to search in all such cases for empyema of the maxillary sinuses. I am convinced that in a large majority of cases of excessive nasal secretion, especially of purulent, there is disease of one or more of the sinuses. Also a state allied to rheumatism may be due to tonsillitis, rather than the tonsillitis being due to rheumatism.

DR. G. V. WOOLLEN, Indianapolis—I have had a very distinct explosion of rheumatism after a slight infection of the nose, following an operation. It shows how readily the system is influenced by the nose. Probably nineteen out of twenty people in this country suffer from catarrh, or catarrh and rheumatism. If any other conditions were so often associated with bad health we would naturally look to local causes. Instead of a cuspidor, I make use of a pus basin and I have frequently tried to estimate the quantity of secretions that are discharged from these cases, who often have no idea that they have any local infection. I have made it a routine practice that patients shall always treat themselves before meals so that they will not swallow these infecting secretions. In consequence I do not use tonics and restoratives nearly as often as I did formerly. I was a general practitioner of twenty-three years before I went into this work, and would be naturally inclined to the general treatment rather than the local, but I have been driven to this conclusion by my observation. If you clean out the nose and head well after meals you will not find nearly so much secretion, showing that it is largely precipitated into the stomach with the food. The relationship between the local condition and the general health is so intimate that there can not be any mistake. I measure all my patients and weigh them repeatedly during treatment; I have found that 90 per cent. of them are under weight. A large percentage of these patients recover their normal weight under treatment.

DR. L. C. CLINE, Indianapolis—I think the class of cases referred to should be separated into groups. We have a certain group of cases in which the nasal troubles are brought about by systemic conditions and that are cured by systemic treatment. In another set of cases the disease is absolutely local and the systemic affection is brought about by the local conditions. If we can separate those cases and differentiate between them we will be much better able to determine the proper treatment. I believe that to operate on every case that comes along is a mistake and we should look a great deal to the systemic treatment of some cases by elimination, giving calomel and salines, and teaching our patients to look after their skin, which is a very important factor in many of these cases. I have repeatedly had cases in which I thought an operation was indicated and necessary, yet by using other measures, such as having them bathe and giving them such remedies as would eliminate retained poisons from the alimentary tract and putting them on a diet, they would recover without an operation.

DR. DUNBAR ROY, Atlanta—I think the tendency with us, like in every other specialty, is that we become too narrow. One gentleman has spoken of routine treatment. I do not believe that all the local conditions in the nasopharynx and the nose are the causes for so many systemic dyscrasias, but every case is an individual one and the treatment that would benefit the case may benefit the systemic condition, but that it would universally do that I do not believe. That cleansing the nose and throat will relieve the systemic conditions mentioned, I do not believe will be found true in every case. Whenever there is a local cause it must be removed: but the idea of any routine method of treating the nose, and cleansing the nasopharynx and nose before eating in every case I think is unwarranted.

DR. O. T. FREER, Chicago—It would be difficult to recognize epithelial cells derived from the nose in the gastric contents. If there is any digestion going on at all the delicate cilia of the nasal epithelium would entirely disappear, and the epithelial cells from the mouth, esophagus and nose would swell so that it would be difficult or impossible to differentiate them from each other or from other cells. As to pus cells coming from the nose—and leucocytes form a large part of the nasal discharge—these would not differ from leucocytes derived from other regions. I think that the effect of disease of the upper air-passages on diseases of the stomach and lungs is apt rather to be exaggerated than underestimated. In Rush Medical College our throat and nose patients are classed with those having diseases of the chest, and we systematically examine the throats and noses of the latter class; yet in spite of our large pulmonary material, especially numerous cases of chronic bronchitis coming under observation, it is not common for us to find diseases of the lungs strikingly associated with those of the upper air-passages.

The number of cases of chronic nasopharyngeal catarrh that improves after correction of gastric difficulty has seemed to me sufficiently noteworthy to suggest some connection between the affections, but only very extensive statistics could establish this as a fact.

Dr. P. J. H. Farrell, Chicago—Where the nasal douche is used in catarrhal conditions, particularly by the general practitioner, damage may be done. In my own work in the last six months I have been called upon to treat a dozen or more cases of middle-ear trouble following the use of one of the many instruments sold for this purpose. On Monday morning, before leaving home, I made a paracentesis on a medical man, which had become necessary as the result of this form of treatment, although I had cautioned him about the use of the nasal douche.

Dr. Cobb, in closing—The question of the relation of diseases of the nose and throat to general diseases, whether these other conditions cause or are caused by them, is a question that has been frequently thrashed out here. If you were to go to the Section on Gynecology you would probably find that somebody will read a paper on the effect of systemic disease on uterine diseases. Many of those cases are improved by general treatment, but do not get well that way. In fact they never get entirely well under general treatment, if we exclude syphilis. In nasal catarrh we have to deal with a disease caused by poor drainage, and when we improve the drainage the case recovers, but just so long as there is no improvement of the drainage the case does not recover. Such cases may improve, but they will not entirely recover under general treatment, but if you secure drainage from the cavities you will put the patient in a better condition to get well. I have been a firm believer in the uric acid diathesis, but I do not believe that it is the cause of the nasal catarrh from which even a uric acid subject suffers. Indigestion may be accompanied by catarrh and still not produce it. Intestinal absorption of decomposing food may and often does produce a profound and prolonged intoxication and in the effort which every secreting surface in the body makes to throw off the poison, the mucous membrane of the nose and throat participates; but this mucous membrane does not suffer more than mucous surfaces in other parts of the body. One attack of intestinal intoxication does not cause a post-nasal discharge for years afterward any more than it causes a diarrhea lasting the same length of time.

CHANGES IN THE FACIAL BONES DUE TO ADENOIDS.*

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The enormous amount of literature on the subject of lymphatic growths in the nasopharynx that our medical journals have been publishing lately is certainly presumptive evidence that the matter has been well sifted from a clinical point of view. It has, but only in consideration of the effects of the condition on children, under 15 generally. In these cases the assertions of Meyer of Copenhagen, thirty years since, have been thoroughly worked out. The definite connection between habitual mouth-breathing, and mental as well as physical development, has been established.

The peculiar characteristic departure from the composite type of human skulls shown by those who throughout life have had functionless noses is also defined, and as this essay hopes to show, logically.

The bones whose part is the greatest in this change are those making up the hard palate. From the gently rounded curve of the roof of the mouth, that is the normal type, we see extreme examples where the arch is high up and the encroachment on the space of the nares most extreme. The same factor is accountable for a nasopharyngeal space, but little larger than the finger tip of the examining hand, the nasopharynx of a new-born babe in a man.

While the mouth roof elevation has really encroached on space originally intended for nose development, yet to put the blame clearly on the part at fault, lack of development alone, of the upper respiratory tract, is responsible for setting in motion the entire vicious cycle. Although the matter of these changes in shape of the bones and of their relation to space is well known, and the remedy applied more and more generally and effectively by the medical profession, there has been, so far as I have seen, no recognition of the bearing of these conditions by dentists on what is a large field of their work, viz., the straightening of front teeth. If this be true, then work done with this object in view, on children, is a hopeless superfluous infliction in extreme cases, and in all cases can be aided by a properly performed, thorough removal of all blocks to the patulency of the upper respiratory tract before complete ossification. That it can be shown to be true, a consideration of the changes necessarily accompanying the altered direction of growth of the palate processes will demonstrate. This demonstration is simply the fact that the upward extension of the roof tends to bring the sides together. As the regular number of teeth begin to demand their space, they can find it in only one extension, and that is forward. The molars get more of the room available because they do the bulk of the work through the grinding motion given them by the pterygoids. The incisors and canines suffer the crowding and malposition the most because the front is the only way to expand, and also because man has largely passed much need for the prehensile and tearing function they were originally and respectively used for by the progenitors of the human mammal of to-day.

These two considerations will also account equally as well for the same malposition in a forward direction of the front teeth of the lower alveolus, i. e., the mechanical limitation to backward extension and the all-important need of the grinding process of mastication by the molars. It plainly follows that the inferior will be kept in apposition by the pterygoids.

It would seem, then, that attention to this condition in early life would be equally effective in lessening the number of people with prominent front teeth as it is in stopping the mouth-breathing with its accompanying evils, which are as apparent to a medical man as the teeth are to the public.

Without rehashing the well-known picture of running ears, constant coryza, etc., in children, I think I can show that even those who have only a small amount of this tissue, and who apparently get through to puberty with no damage are yet, as these cases will show, to be relieved of ear and throat conditions that have no plain, evident connection with adenoids only by due consideration of the atypical anatomy of the nasopharynx on the lines above set forth.

If, in a first view of the cavity, remnants of adenoids are still present, it is fair to assume their existence in greater amount in earlier life, and independent of elicited history, a minute, detailed examination of their present relations to a normal or abnormal pharyngeal vault is in order. The assumption is based on the well-known elimination of such glands as those composing the tonsillar ring, the thymus, etc., by the organism on reaching the limitation of growth; provided previous inflammations have not produced permanent hypertrophy by metaplastic or direct connective tissue proliferation, a common type of which is the persistent hypetrophied tonsil seen at all ages. Bearing in mind these facts the diagnosis of their presence has a relative value beyond the intrinsic.

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* Read in the Section on Laryngology and Otology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

A case illustrating this would be Miss G., aged 18, in whom the bone conformation was typical and the postnares small—a constant day and night mouth-breather. The removal of a piece of adenoid from its location just above, but close to the postnares was followed by a relief that was entirely out of proportion to the size of the tissue.

A case emphasizing particularly the point of location was Miss G., aged 15, a mouth-breather only at night. In her case the slight encroachment made on the available space by the soft palate when the horizontal position was assumed caused the trouble, because the remaining adenoids were all low down. The nasopharynx above was completely normal, save in roominess.

A case of obstinate salpingitis with hearing reduced to about half was relieved after about a month's ineffectual care, by my being able to get part of a growth with the Gradle guarded forceps not larger than a buckshot, but located above and to the inner side close to the orifice of the Eustachian tube. This was Miss S., aged 20.

It has been of prompt and decided benefit in another instance, Miss F., aged 25, who complained of chronic nasopharyngeal catarrh, to curette the area of most insignificant remnants.

I have been unable to find but the most meager references to it in the works of medical writers in this field. The standard text-book of dentistry that I have also seen failed to demonstrate the development of the alveolar processes with the corresponding dental manifestations in connection with perverted respiration due to adenoid hypertrophy. In fact, the text-books of human anatomy, such as Gray's, are less definite as to the development of the superior maxilla than as to any other facial bones. However, to repeat the fact that the grinding process is the most important demand the race now makes on the teeth, makes the maintenance of the apposition between the upper and lower molars by the pterygoids an assured and necessary fact. The upward growth of the palate is Nature's assurance that the mouth has assumed the added function of respiration thrust upon it. One center of development is, however, well understood; that is, the pre-maxillary that includes the four incisors, and that is the last one to become ossified to the palate process. This late ossification of this center of development is a positive confirmation of the facts expressed above, that the front teeth find space as best they can, and in a forward direction. Their junction to the line of the molars is the last process of the final arrangement. It has been my privilege to see many cases where an adenoid operation would have saved an unsightly physiognomy. The specimen submitted is a typical example, and while a cast of the familiar projecting alveolus, it is not extreme, but was selected from a collection as being a fair average. From the observation I have made in this connection, I feel confident that this anatomic process is developed in this way.

In recapitulating the points I wish to establish as worth the profession's attention, the first is that mouth-breathers' superior and inferior maxillaries, palates, vomers, turbinates, ethmoid and sphenoid bones show an alteration in development as compared with the normal, that I contend is inevitably accompanied by prominence of the alveolar processes in front and misplacement of the front teeth; that due significance should be attached to the recognition of evidence of previously existing adenoids in efforts to locate obscure sources of ear and throat disturbances; and lastly, the relative size of such evidences and that of the nasopharyngeal area, as well as their location, are factors opposing the apparent significance.

The few cases given are only those who were seen previously by other users of the rhinoscopic mirror.

THE DIAGNOSIS AND TREATMENT OF MASTOIDITIS.*

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In any case of acute or chronic middle ear inflammation, where there is a collection of pus within the middle ear, there is danger of extension of the inflammation to the mastoid cells. It is a question whether the mastoid is not involved to some extent in all cases of acute middle ear inflammation, as well as in all cases in which a chronic suppuration of the middle ear has existed for a considerable period of time. Naturally this statement is not meant to imply that the mastoid involvement requires any interference on the part of the surgeon, the condition disappearing on appropriate treatment of the middle ear. It is hardly conceivable, however, that in two regions so closely associated and so intimately connected as the pneumatic spaces of the mastoid and the tympanum, one part could be the seat of an inflammatory process without some slight extension to the other.

When we come to the recognition of mastoiditis from a clinical point of view there are certain well-marked signs and symptoms which enable us to make a diagnosis. The symptoms vary somewhat in adults and in children. In adults, the most prominent symptom is severe pain in the region of the mastoid. This may be accompanied by a very profuse discharge from the ear; or the discharge from the ear, which has been previously profuse, may suddenly become diminished, and this diminution in the discharge may be followed by a marked exacerbation of the pain. While pain is a very prominent symptom, it may not be excruciating. In phlegmatic individuals the pain is frequently not described as severe; the patient will simply pass sleepless nights, and on being questioned it will be found that the sleeplessness has been caused by the pain in the head. Prostration is also a symptom which should be borne in mind. It is impossible to have any considerable collection of pus within the pneumatic spaces of the mastoid without having the patient suffer more or less severely from prostration. The temperature is probably the least important guide in making the diagnosis. In some of the most severe cases in adults, which have been under my observation, I have found the temperature absolutely normal for a long period of time. In one case in particular the temperature observations were made every three hours for a period of two weeks. During this time the temperature never rose above the normal standard, yet on opening the mastoid the entire cellular structure was found to be broken down, and the cavity resulting was filled with foul pus. If temperature is present, it is an aid in diagnosis, and renders the presence of a purulent collection within the mastoid process probable; if absent, it does not exclude the possibility of a severe suppurative process existing within the bone. What I have said in regard to temperature applies to adults alone. In children, an involvement of the mastoid process, either following an acute inflammation of the middle ear or following an acute exacerbation of a chronic suppurative process is always attended by a rise in temperature. In children, and especially in young children, this rise in temperature may be considerable, the temperature frequently reaching 103 or 104 F., or even 105. It is also noticeable that in child life symptoms of general sepsis develop quite early as a result of mastoid suppuration. While in adults it is rather uncommon to observe a septic curve in the temperature, excepting in those cases which have been long neglected, and where all the signs are very well pronounced, it is quite common in children to find evidence of septic absorption within the first twenty-four or forty-eight hours after mastoid involvement is suspected. Temperature, then, in children is a valuable point in making a diagnosis of mastoid involvement; in adults, it is of but little value, and the absence of temperature should never be taken as an indication that the mastoid is not involved.

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Coming now to the physical signs which characterize involvement of the bony structures behind the ear, we have, as I have said, either a very profuse discharge or a history of a previous profuse discharge which has suddenly become less. The reason why I say that a profuse discharge from the middle ear may be indicative of a mastoid involvement is that where an otorrhea has persisted for a long time and where the discharge is exceedingly free, the surgeon must ultimately come to the conclusion that a larger region than the middle ear is inflamed, in order to account for the profuse flow. Those cases which are attended by a very profuse discharge from the tympanum, and where the drainage from the ear seems to be perfectly free, are seldom accompanied by pronounced symptoms; there is very little pain, only moderate elevation of temperature in children, and the attendant notices simply that the patient is becoming weaker and weaker each day, and is gradually losing flesh and shows some signs of systemic infection. Those cases in which the discharge becomes suddenly diminished are usually characterized by slight elevation of temperature in adults and a high temperature in children. These cases are also accompanied by severe pain. The occurrence of facial paralysis during the course of a middle ear inflammation was formerly considered a pathognomonic symptom of involvement of the mastoid, but later experience has taught us that facial paralysis is quite as common in those cases of middle ear inflammation in which there is no mastoid involvement as in cases complicated by mastoiditis. Its presence is, therefore, of no diagnostic value.

Another sign of great importance in determining the presence of this condition is local tenderness. If the mastoid is palpated carefully, pressure being made over the external surface of the bone close to the attachment of the auricle, marked tenderness will be elicited in a very large majority of the cases where inflammation exists. The point of greatest tenderness is usually located immediately over the region of the antrum. It is important in making this examination that the mastoid alone be palpated, and that the palpating finger does not exert any pressure upon the auricle. If attention is not paid to this point, the presence of either circumscribed or diffuse inflammation of the external auditory meatus will cause sufficient tenderness to mislead the surgeon. The palpating finger should be pressed firmly upon the bone, pressure being exerted backward so that the auricle is not moved, and no motion communicated to the fibro-cartilaginous meatus. In this way we elicit true bone tenderness and absolutely exclude any tenderness due to inflammation of the canal. The presence of tenderness over the mastoid tip is not to my mind of great diagnostic importance, excepting in those cases in which a mastoid empyema has ruptured through the internal surface of the process, and the pus has been evacuated beneath the attachment of the sternomastoid muscle. Here tip tenderness is naturally present, but, in addition to tenderness, we have a diffuse brawny swelling beneath the attachment of the sternomastoid muscle. This tumefaction is a much more prominent and important sign than tenderness alone. Tip tenderness in other cases can be practically disregarded. It is always wise, however, to examine carefully the attachment of the sternomastoid muscle to be certain that the mastoid abscess has not evacuated itself in the manner above described. Considerable stress is laid by some upon the presence of tenderness over the mastoid emissary vein. In a rather large clinical experience I have never found this sign to be of any value in enabling me to arrive at a diagnosis.

To sum up, then: Local tenderness is an important sign and is almost always present; the point of maximum tenderness is almost invariably the region of the antrum, tip tenderness being significant only in those cases where rupture has occurred at the tip beneath the sternomastoid muscle.

Otoscopic examination is also of great value in enabling the surgeon to make a diagnosis of this condition. On looking into the external canal in cases where the mastoid is involved, one is immediately impressed by a marked shortening of the meatus on the upper and posterior aspect. The upper and posterior wall of the canal sinks down so as to partially fill the lumen of the meatus, and obscures more or less of the upper and posterior portion of the drum membrane. In certain cases this sagging portion of the canal wall seems to be a continuation of the membrana tympani. In such cases the area of the fundus is much diminished in the vertical diameter. Any bulging of the upper portion of the membrana tympani in cases of middle ear suppuration should always be regarded with suspicion. Bulging in this region, together with sagging of the upper and posterior wall of the canal, as already mentioned, is easily explained on anatomic grounds if we remember that the roof of the external auditory meatus at its inner extremity constitutes the floor of the aditus ad antrum and of a portion of the mastoid antrum.

I have not said anything so far about the presence of tumefaction behind the ear. A fluctuating swelling behind the auricle is usually indicative of mastoiditis, the pus having perforated the mastoid cortex and burrowed beneath the periosteum. At the present day this condition is seldom observed in adults, the cases being recognized at a much earlier period. In infants, a fluctuating swelling in this region is occasionally observed in neglected cases. While always indicative of mastoid involvement, it is not always a sign that the mastoid cortex has been perforated. In young children the pus not infrequently escapes from the mastoid antrum through the aditus ad antrum into the tympanic vault, and then through the Rivinian fissure outward-along the upper wall of the canal until it reaches the external surface of the mastoid. These cases should always be treated in exactly the same manner as those in which perforation of the cortex is present, but the cortex will frequently be found to be intact at the time of operation. Quite different from post-aural abscess is the presence of edema behind the ear. Post-aural edema is, in my experience, much more frequently a sign of a furuncle on the posterior canal wall than of any inflammatory process within the mastoid.

Turning now to the treatment of cases of mastoiditis, the first point to be observed is to put the patient at perfect rest. So soon as there is the slightest suspicion, on the part of the surgeon, that there is danger of mastoid involvement, the patient should be kept absolutely quiet, should be put upon a fluid diet and the bowels freely opened by means of a saline purge. Absolutely free drainage should be established through the external auditory meatus. This is best done by making a free incision through the drum membrane. The incision should begin close to the posterior periphery of the membrane at a point below the tip of the malleus handle, and should extend upward into the tympanic vault. When the vault has been reached the knife should be carried upward and a little backward so as to sever freely the reduplications of the mucous membrane, which are so richly distributed in this region. The knife should then be drawn out on the upper and posterior wall of the meatus for a distance of at least one-eighth, sometimes one-fourth, of an inch, dividing all of the soft parts down to the bone. This incision serves the purpose of not only draining the tympanum freely but causes a marked depletion of the inflamed tissues, and relieves tension along the floor of the tympanic vault and mastoid antrum. After such an incision has been made the ear should be frequently irrigated with a warm antiseptic solution. The warm irrigation cleanses the parts mechanically, and also favors the unloading of the congested tissues. A sero-sanguineous discharge frequently persists for twelve to thirty-six hours after the incision has been made. I think that the value of local depletion thus obtained is often underestimated.

With reference to the abstraction of blood from the external mastoid surface, I am not in favor of the procedure. It was formerly the practice to abstract from one to three ounces of blood from over the mastoid by means of leeches or of wet cups in all suspicious cases, the object being to abort the inflammation. I have never been convinced that this measure is of the least value in averting the involvement of the bone, and it certainly adds much to the discomfort of the patient.

Regarding the local application of cold, much is to be said both for and against its use. Several years ago I was quite an enthusiastic advocate of the local application of cold as an abortive measure in mastoiditis. Further experience has taught me that the results obtained by the use of the ice-coil are in many cases but temporary, and that the evidence of the inflammatory process within the bone is simply masked by the use of cold. It is quite possible that the ice-coil or the aural ice-bag may prevent a further extension of the inflammation to the superficial structures. In many cases I am convinced, however, that where the inflammatory process does not advance in this direction it invades the deeper portions of the mastoid, and often extends through to the lateral sinus or to the middle cranial fossa. In many instances after the removal of the ice-coil, where its action has seemed to be perfectly satisfactory, and where it has apparently aborted bony involvement absolutely, the surgeon finds that in the course of a few days or weeks evidences of mastoid involvement reappear, and upon operation extensive tissue destruction is found to have taken place. I would not be understood as entirely condemning the use of the ice-coil or the ice-bag. In a very limited number of cases which have been under observation from the inception of the middle ear inflammation I believe that the use of ice is justifiable. In cases which have not been under the personal observation of the surgeon until there are some evidences of mastoid involvement, I do not advocate the employment of cold. In all instances where an attempt is made to abort a mastoiditis by means of the coil or of the ice-bag it should be remembered that the cold application should not be kept on for more than forty-eight hours at the longest, and in most instances not longer than thirty-six. In this connection it should be emphasized that when cold is applied it should be used continuously; the coil or ice-bag having once been put in position should be kept there for the entire period of thirty-six hours, only being removed when it is necessary for the surgeon to thoroughly examine the ear. It should also be borne in mind that having once taken off the cold application at the end of thirty-six hours its use should not be repeated. Nothing is more dangerous than to use the ice-coil for twenty-four or thirty-six hours, then remove it because the patient is free from pain, and in a day or two reapply it because the pain has returned. The mere fact that the pain returns is decisive evidence that bony involvement is present, and that operative interference is absolutely essential. The question then arises: "What measures are to be taken in a doubtful case of mastoiditis; in those cases where the tenderness is but slight, where the temperature is of no diagnostic value, and where the pain is only moderate?" I am heartily in favor in these doubtful cases of doing what may be termed an exploratory mastoid operation. If the surgeon feels fairly certain that there is mastoid involvement, or if, on the other hand, he is not absolutely certain that there is not an inflammatory process deep down in the mastoid, I believe that he is perfectly justified in performing an exploratory operation. Such an operation should be undertaken merely for the purpose of exploration, and the position of the surgeon should be clearly defined to the patient. If this plan is followed I am certain that there will be fewer cases of grave intracranial complications following mastoiditis. During the past year I have followed this plan, and can only say that I have never yet opened a mastoid in which I have not found some evidences of inflammation. Fully one-fifth of these cases I would have treated some years ago by means of the ice-coil. The results of early operative interference have certainly been very flattering; the wounds heal quickly, the discharge from the ear ceases, the hearing returns practically to the normal standard, and the time of convalescence is markedly decreased. The general condition of these patients has invariably improved immediately after the operation, and contrasts most favorably with those cases where a suppuration of the middle ear has continued for many months after the use of abortive measures. In many instances this suppuration has continued for an indefinite period. The dangers of the mastoid operation are practically *nil*. Out of 316 cases operated on I have had but 14 deaths. One died of facial erysipelas, 1 of septic pneumonia, 1 of acute nephritis, 1 of diabetes and 1 of marasmus. In all the others intracranial infection had occurred before the mastoid operation was done, and consequently the fatal termination was in no way dependent on the operation—in other words, there has not been a single death which could be in any way traced to operative interference on the mastoid, whereas the cases in which intracranial infection had already occurred would undoubtedly have been saved if an earlier operation had been performed.

Regarding the particular operation to be performed, this must vary with the individual case. It can not be too strongly urged that any operation in this region must be performed under the most rigid aseptic precautions. The parts about the ear must be shaved, thoroughly scrubbed and covered with a moist bichlorid dressing before the operation. The usual aseptic technique must be observed in keeping the field of operation sterile. All instruments must be sterilized, and careful attention must be given to the cleansing of the hands both of the operator and of his assistants. These precautions are of the utmost importance in exploratory operations as well as in those where pus is known to be present. Even in an exploratory operation I advocate a very free incision. The incision should begin just below the tip of the mastoid, and should follow the line of auricular attachment, to a point above the meatus, being situated about one-quarter of an inch behind this line. The incision should extend through the soft parts down to the bone. All bleeding vessels should be secured with clamps. The anterior flap is then pushed forward by means of a periosteal elevator, exposing the upper and posterior margins of the bony meatus. The posterior flap should be elevated in a similar manner, and the margins of the wound separated by means of retractors. In all operations the surgeon should first enter the antrum as the initial procedure. No matter whether a perforation exists through the cortex, or whether the cortex is intact, the aim of the operator in every instance should be to reach the large pneumatic space in immediate communication with the tympanum. If the operation is done for exploratory purposes, this would naturally be the first step. Given a case where the operator finds absolutely no pus or softened bone in the deeper parts of the mastoid in the region of the antrum, it is not necessary to continue the operation. The upper and lower angles of the wound can be sutured, a small drain inserted into the mastoid antrum and an antiseptic dressing applied, and the case will recover in a very short time. The operation can not but exert a beneficial influence on the suppurative process within the tympanum, the establishment of thorough drainage through the posterior wound causing a quick subsidence of the inflammatory process. Where pus or softened bone is found on exploring the antrum, I then advocate the complete destruction of all pneumatic tissue within the mastoid; all of the cells must be exposed and their walls broken down by means of the sharp spoon. It is of particular importance to remove the tip of the mastoid process. Not infrequently we find, on entering the mastoid antrum, a little softened bone in this region. The remainder of the mastoid may be fairly firm until the surgeon exposes the large cells at the tip of the process, which will be frequently filled with pus. It is not an uncommon experience to find fairly healthy bony tissue between the middle ear and some portions of the mastoid process which are in a very bad stage of caries—in other words, the surgeon, having once discovered softened bone in the region of the mastoid antrum, is not certain to what extent the bone may be involved until he has removed every vestige of cellular structure from the mastoid, and until instruments come in contact with the firm inner table of the skull.

In speaking of the exploratory operation it will not be out of place to mention the exposure of the lateral sinus as an exploratory procedure. All of us have met with cases in which mastoiditis has been suspected, and where the surgeon has not been called in until the temperature has become very high, and where there are absolute evidences of septic absorption. If there is any suspicion that the lateral sinus is involved, it is always justifiable to expose this venous channel for the purpose of exploration. If the sinus appears perfectly normal, it is not necessary to open it. If, on the other hand, there is the least suspicion of the presence of a thrombus, the sinus wall should be freely incised, and the thrombus removed. The exposure, or even the opening of a healthy sinus, if the technique of the operator is perfect, does not endanger the life of the patient in the slightest degree. In doubtful cases the exposure of the sinus at the first operation may save valuable time and preserve the life of the patient.

Knowing as we do the fatal results which so frequently follow unrecognized cases of mastoid inflammation, or cases operated on at a late period, I wish to impress on the minds of my hearers the necessity of watching with the utmost care every case of middle ear inflammation where the symptoms are acute. Mastoid involvement may come on so insiduously as to escape observation unless the possibility of its being present is continually in the mind of the surgeon. To wait until symptoms are so pronounced that there can be no question as to the advisability of operation will often mean the loss of the patient's life. I would not be understood as advocating an operation upon the mastoid process as soon as there are any symptoms of a congestion of the mastoid cells; on the contrary, I believe in attempting to abort mastoid involvement by free drainage through the canal. This should always be the first step taken by the surgeon except in cases where there is evidence of perforation through the cortex, or where marked septic symptoms are present. Canal drainage having been established, however, and in the few selected cases an attempt having been made to abort the involvement of the osseous structures by means of cold, the surgeon should not hesitate, if the symptoms do not immediately disappear, to open the mastoid for purposes of exploration. The procedure is not only justifiable, but is indicated, and the surgeon who hesitates when such a condition is present does not do his full duty to his patient. I also wish to bring out the importance of doing a complete and thorough operation in every instance where the mastoid is found to be involved upon exploratory operation. I know it has been my own experience, and I believe it is the experience of my hearers, that the more mastoid operations we perform the more radical is the procedure made. In following up my cases during the last five or six years I find that the period of convalescence is very much shorter where an absolutely complete operation is done, removing all of the cellular structure of the mastoid, than where an incomplete operation is performed. Every vestige of cellular tissue must be taken away if a perfect result is to be secured. The presence of a small focus of diseased bone in any portion of the wound, while it may not necessitate a secondary operation, will certainly prolong the convalescence of the patient. On the other hand, if the operation is thoroughly and completely done, the wound heals very rapidly, and the patient is saved a long and tedious convalescence.

DISCUSSION.

DR. J. H. HOLINGER, Chicago—We have in the middle ear and the middle ear process, accessory sinuses, namely, the antrum and the different cells of the mastoid. The more postmortems one has made the better he knows that in the acute as well as in the chronic suppurations of the middle ear we find the cells more or less filled with pus. This pus in acute suppurations disappears under two conditions. First these cells are small and the area of absorption of the pus is favorable. However, not alone the size of these cavities is responsible for the quick or slow absorption of the pus, but there is another factor in the character of the epidemic. In some epidemics you find typical involvement of the mastoid, and after three, or four, or five days the inflammation disappears. Again, you have hardly any pain in the mastoid and for three or four weeks the suppuration still persists, slight tenderness persists, and if you operate you will find enormous changes in the mastoid, even though the cells are not necessarily large. The Doctor does not seem to lay stress upon the tenderness of the tip of the mastoid. It is very often found that just at the end of the tip of the mastoid you have one quite large cell. I have operated upon three cases this spring where the mastoid antrum and all the rest of these cells were free, but in the tip of the mastoid there was as much as a teaspoonful of pus under high pressure. If at any part of these cells you have a little isthmus that closes up the communication you will have a considerable cavity. I have found as a regular symptom pain caused by pressure on the anterior half of the mastoid process. I have found it much oftener there than elsewhere. I should like to refer to the use of the sharp spoon that the Doctor advocates. Of course we have to break down the bony walls of the mastoid between the cells, but generally I would not use the sharp spoon in the antrum for the simple reason that you destroy then the mucous membrane that is left. Suppose that you have one or two cells that you do not entirely open, then you will have caused solidification and complete closing of the mastoid antrum and in this way you will possibly leave a cell without drainage. These cells later on are prone to bring on suppuration and a new mastoiditis. I have operated in the last two years twice in such cases in which I found a cell entirely shut off from all communication with the middle ear, and there had been caused in this way renewed suppuration. In one case I had to open the sinus and found a sinus thrombosis that had been caused by one of these cells. Thorough asepsis in a case of this kind is important.

DR. REDMOND W. PAYNE, San Francisco—I would like to ask Dr. Dench what is his method of caring for the wound after the operation. Suppose the operation is so radical as to reach from the antrum to the attic, thus throwing these cavities into one large cavity with the whole bone surface uncovered, does he carry on dressing of the wound and allow the wound to granulate or does he line this cavity with skin flaps provided by slitting up the cartilaginous meatus, etc?

DR. EMIL AMBERG, Detroit—Politzer speaks of the presence of the pus in the mastoid in cases of otitis media suppurativa. We may have pus here, but that does not necessarily mean that we have inflammation of the mastoid cells. I prohibit these patients lying on their back, in order to prevent, if possible, the extension of the inflammation to the cavity. Dr. Dench spoke of prostration in connection with mastoiditis. The Eustachian tube in children is short and the pus may readily go into the stomach and so derange digestion. I differ with Dr. Dench concerning the diagnostic value of the facial paralysis. Trautmann reports that he saw a case in which an exudate in the tympanic cavity caused facial paralysis, and in that case the evacuation of the exudate brought about a disappearance of the facial paralysis, twice. In these cases the facial canal is supposed not to be entirely ossified.

We know that leeches are helpful and that often cold or hot applications are helpful. Whether cold or hot applications may be preferred depends largely upon preference on the part of the patient. It is peculiar that, in similar cases, both cold and warm applications serve practically the same purpose. We know that cold is, to some extent, inimical to the growth of microbes and at the same time the confluence of blood as caused by heat may give better conditions for the resistance of the tissues. For instance, we know that in a certain heart disease tuberculosis is reported as not occurring so often. Another factor which is mentioned only as very hypothetical is the importance of the chemismus of the cell; for example, it is surprising that in incising abscesses we do not produce an infection. There seems to me two possibilities: It is possible that the antiseptic qualities of the blood serum are effective, and further that we have to deal with some peculiar condition of the cells. These questions are mentioned as purely hypothetical. The decision must be reserved for the future.

DR. S. A. OREN, Lanark, Ill.—I would like to ask about the value of peroxid of hydrogen in these cases where we open the mastoid cells.

DR. H. WOODS, JR., Baltimore—I agree with Dr. Dench in the general principle—that one's operations tend to become more and more radical as he becomes experienced in mastoid work. Yet I can not help recalling, in regard to one class of mastoid cases, the good results that used to follow a much less radical operation. I allude to cases, occurring in young children, of "dissecting tympano-mastoid" abscess. I remember a personal conversation with Dr. Sexton, a year before he died, in New York, in which he laid great stress upon this kind of subperiosteal accumulation of pus over the mastoid process. He found that it was only necessary to evacuate that accumulation. While we can not know the condition of the mastoid cells without opening them, many cases, especially in children, will get well with the less radical operation. Opening of the mastoid is a safe operation: but we are sometimes confronted with the question, when we find no opening in the cortex, whether it is absolutely necessary. I recall a case in which it was impossible to get a child to stay in the hospital. She was taken into the dispensary operating room. A large periosteal abscess was opened, and the patient got well in three or four days. In two other cases, operated upon last year, the cells were opened freely and nothing was found. There was some little otorrhea at the time. Whether these cases would have gotten well without opening the cells is a question; but it seems to me well worthy of remembrance that these cases sometimes do well if only the periosteal abscess be opened. Dr. Dench's opinions regarding cold corresponds with my experience. I doubt if I have ever seen a case in which cold "aborted" a mastoiditis, which, in the light of later experience, would not have disappeared without it. I would like to ask about the tip tenderness. Does the Doctor mean to say that tenderness at the tip is indicative of perforation through the tip into the neck? If so, our operative procedures must be altered when this symptom is present. I have often seen all the upper cells in good condition, and the one large tip cell filled with pus. Tip tenderness was marked, but I could find no perforation through the tip.

DR. H. G. SHERMAN. Cleveland—Our friends who see patients in large clinics may look at this in a radical manner. But those who deal with a large class of patients should observe conservatism and certainly do their whole duty. When suppuration begins no one can tell where it will end. I believe that is one of the greatest truisms in this line of work. Any man who has made a careful study of the anatomy of the middle ear and the structures of the middle ear and the cerebrum and the external parts, will appreciate that we can afford to be rather conservative. The class of patients I see will not permit me to open the mastoid except as a last resort; and in a very large practice that rarely occurs. I find in these cases of acute middle ear disease that the operation advocated by Dr. Dench of a free incision into the membrana tympani in connection with the use of the pneumatic speculum will, in the great majority of cases, stop the disease process. I would condemn as radical as possible the injection of the parts with bichlorid. The bichlorid of mercury in 1 to 5000 solution will injure the delicate tissues and anybody who knows the anatomy of the pneumatic cells knows that the solution can find an exit only through an external opening. This question came up at the Ninth International Congress, and while in a way operative interference was accepted I noted that such men as Politzer and Macewen of Glasgow were conservative. And no man has accomplished greater triumphs than Macewen. Politzer divided the symptoms into objective and subjective symptoms. If the mastoid is swollen and tender, that does not indicate radical operative interference in every case. The application of leeches and the old-fashioned mustard plaster should not be discarded. The leeches, associated with the slitting of the membrana tympani and the use of the pneumatic speculum, will possibly stop those cases. If not we should make a Wilde's incision down to the bone and apply heat, which will stop another class of cases. I can not understand how a man can make an incision down to the lateral sinus with perfect impunity. I have seen in the hands of eminent men death occur with scarcely a moment's warning. I have known clever men to meet with fatal hemorrhage from the sinus. Such an operation is not justifiable unless we find symptoms of cerebral involvement with vomiting, pain increased by palpation extending to the occipital region, and in short we must be sure that we are dealing with an abscess or leptomeningitis before we take such a radical position. I am opposed to it because I recognize that it is not a simple thing to do. If you are treating the daughter of a man who is very particular in regard to the cosmetic effects, you can not cut into the mastoid freely without leaving a large scar; and you are opening up an avenue of infection. I recently had an old lady under my care with an acute inflammation of the middle ear which continued some six or eight weeks. The Doctor had assured her that she could return to Cleveland and that she would get well. I wrote to the Doctor that it was a long distance from New York to Cleveland. The patient did as the Doctor suggested. There came on a chill and a rise of temperature to 103.5. I told the husband that in order to save his wife's life we must evacuate the pus. But they confronted me with the Doctor's statement that she would get well. Gentlemen, she is well to-day. So I have seen cases recover upon whom I was not permitted to operate. In fact, we do not know how many of these cases will get well if we are conservative in treatment. I must have the most typical symptoms of cerebral involvement before I will go into the lateral sinus.

Dr. C. M. Cobb, Lynn, Mass.—It seems to me we have the same problem here as in general surgery. If you have pus the probabilities are that in a large majority of cases the pus will have to be evacuated by an artificial opening. If the cortex is thin, the pus may readily burrow through there; or if the cortex is not thin, it may go in a more dangerous direction. The question of cases getting well is largely a question of drainage. If the natural drainage of the mastoid antrum is good you will rarely get a mastoiditis of any consequence. My explanation of the cases that get well is that the aditus ad antrum is small and the swelling of the mucous membrane closes it entirely, but when the congestion subsides the drainage may become fairly good and the case recover without operation. But if the drainage is not good, the pus in the mastoid cells differs not at all from pus in other bony cavities. It may become encysted, but the probabilities are that eventually it will have to be evacuated.

Dr. J. F. Barnhill, Indianapolis—I very much wish such plain and rational discussions could oftener reach the whole profession. It is astonishing how the subject of mastoid treatment is so lagging, considering that every other branch of special and general surgery has made great forward strides. Dr. Dench and a comparatively small number of other eminent gentlemen of the United States have done much to bring it where it belongs, yet the fact remains that in the large body of medical men there is not that complete understanding of the subject, or interest in it, which there should be, and which its importance demands. But there are present symptoms of increasing interest, and I predict that if it is often and forcibly brought before the profession it may become a formidable rival of appendicitis in professional thought. The best treatment for mastoiditis is based upon the most rational of surgical principles. Better drainage is the one great object to be attained. The progress of the case at a given time is the determining factor as to what method of procedure shall be undertaken. If the case is seen early when the mastoid is inflamed, but contains no pus in its cells or antrum, securing free drainage by means of a thorough paracentesis, as described by the author, is of the highest service in aborting mastoid abscess. However, if pus has already formed it would be irrational, because unsafe, to depend upon the paracentesis alone, and so the mastoid operation should be performed, because it is the only certain way of relieving the part of its septic contents. Dr. Dench's reported cases show how successfully the mastoid operation may be performed, and compares favorably with results of operations far better known and with more approved procedures. I know of no abdominal surgeon who has made 316 abdominal sections with a smaller death-rate than is here shown for mastoid surgery. Granting that the necessity for mastoid exploration is as great as in abdominal exploration, statistics as here given justify the one as much as the other. Dr. Sherman says his patients will not permit the mastoid operation. We all find some objection of that kind, but can remember when the abdominal surgeon experienced like difficulties, until he convinced the profession and public on every possible occasion by voluminous statistics that there is little danger in the operation itself, till now he operates with little opposition from profession or public. Otologists may profit by this example and become more aggressive to the betterment of their specialty.

As to how radical any mastoid operation should be, I wish to emphasize the statements already made, by saying that it should be as radical as the disease is extensive, and that any operation falling short of removing all the diseased tissue will not only fail to cure but will bring the operation into disrepute. The necessity for secondary operations is proof positive that the primary operation was imperfectly performed. Therefore no operator should undertake to do this work unless he is prepared to follow up the disease wherever it may lead, opening every cell, the middle fossæ, or even the lateral sinus, as well and thoroughly as in case only a simple opening into the antrum is all that is required. Extensive operations require large wounds, but large wounds, free from diseased tissue, heal better, quicker and more certainly than smaller ones with necrotic or suppurating areas within them.

Dr. A. E. Prince, Springfield, Ill.—I am not quite in accord with the conservative idea expressed by Dr. Sherman. I live in a very small town and I do not hesitate, whenever duty calls me, to suggest an operation, and I do not know that there is any difficulty on the part of the public in accepting my recommendations. I think too many of us discuss the question too much with the patient and leave the patient to make up his mind whether or not to have an operation done. I first make up my own mind and then tell the patient whether or not it is my advice to have an operation done. But when you discuss with the patient the advisability of doing the operation you raise many queries that often cause them to postpone the operation. For many years I have been doing what is called the conservative mastoid operation. I operate when there are swelling and tenderness and symptoms of suppurative mastoiditis. I believe in such cases Nature would probably attempt to make an external opening if I did not operate. The operations that we do deserve credit for are those upon cases in which the mastoid is not invaded, in which the escape of pus from the antrum through the infundibulum is obstructed and death from meningitis is likely to occur in a very few days. In those cases, when I go into the antrum before I find pus I think that I may save the life of the patient. I hope to educate the medical profession in my vicinity so that whenever there is a patient with severe pain and without any tenderness or redness of the mastoid, or with a very small amount of pus escaping through the meatus, it will be recognized as a case that requires the most careful and prompt decision about opening the mastoid before the patient should die. In my own observation in the vicinity where I live, the last few months there have been two cases die from meningitis that were distinctly ear cases and could probably have been saved by operation. In those cases the surgeon put off operation too long. After hearing a paper that I read before the Society recently, many of the members said that they wished they could have known it twenty years before, for they felt they had all seen cases that probably would not have died had the operation been performed.

I do not regard the opening of the antrum as dangerous. The location is plain, and the free drainage will permit you to say to the patient that the operation, if done sufficiently early, will almost surely give a favorable result. But I must confess my ignorance in regard to the after-treatment in those cases in which we have opened the sigmoid sinus. I am not certain in those cases as to the best treatment after operation.

Dr. Don M. Campbell, Detroit—It seems to me that the aspect of this mastoid question in the last ten or fifteen years has changed markedly, as has been the case with many other forms of disease. My recollection of the status of the question and the clinical aspect of the cases as I observed them ten or fifteen years ago is that we seldom had in those days a serious involvement of the mastoid cells following or complicating an acute suppurative otitis media. I do not mean to say that it was an unknown thing, but compared with the condition to-day, those cases were much less frequently observed. To-day, since the widespread grip epidemics have invaded the country, we find many more of these cases go on to serious involvement of the mastoid cells and actually demand surgical interference for their cure. That condition has been a problem to me, and the investigation of the bacteriologic aspect of these cases has been of a good deal of interest. As far as my own investigation along that line has been concerned, I have not been able to find or demonstrate any special infection. We have found streptococcus, staphylococcus, and mixed infection. I would like to know Dr. Dench's opinion as to whether it is a special infection or the effect of the grip epidemics on the general economy that has made these cases so much more frequent.

Dr. C. S. Baker, Bay City, Mich.—I think Dr. Prince has hit the keynote. There has been too much conservatism heretofore in the handling of these cases. The old Wilde's incision and the old methods of operating have passed away. Every surgeon should be conservative, but I have an opportunity to observe the results of procrastination far oftener than should happen. The profession at large has not been sufficiently educated in the conduct and management of this class of cases. Wherever pus is found it should be evacuated. Of course, if the patient refuses evacuation of the pus then your responsibility ceases, but your duty is not done until you insist on doing what, in your judgment, is the proper procedure. We should not discuss the case with the patient but we should give him our advice as to whether or not the case should be operated upon. The trouble is, we do not know when the last safe moment for waiting comes and when the patient can not recover. I have seen a patient with the mastoid cells entirely filled with pus, the bone ulcerated through into the cranial cavity, within a week from the onset of her disease: again, I have seen a patient in whom the suppuration existed two or three months with few symptoms and only slight swelling or tenderness, and still there was great breaking down of the cells. In another case on operation the probe passed directly through into the temporal fossa, although the patient had not missed a day from school. So there is no symptom, or group of symptoms, that will absolutely indicate when the danger point is passed. When we are satisfied that the antrum is not having proper drainage we should give it a suitable outlet for the escape of pus externally.

Dr. D. A. Kuyk, Richmond, Va.—Much depends on the patient, his physical condition, etc. It is my experience that the symptomatology presented by the negro differs somewhat from that of the white race. National characteristics, tendencies, and idiosyncrasies demand careful consideration in forecasting the result of the mastoiditis or, in fact, almost any other inflammatory condition. For instance, I doubt very much if the American is as prone to mastoid inflammation following suppurative ear disease as is the European, either in point of frequency or severity. The education of the laity and of the profession has been referred to and is a most important feature. The surgeons have by persistent writing and teaching aroused the profession and laity to the importance of early recognition and treatment of appendicitis and many other surgical diseases, and so must aurists by concert of action, persistent writing and plainly worded, concise papers, before the various state societies, institute an educational crusade; the general practitioner will soon become so fully convinced of the urgent necessity and the great importance of the early recognition of mastoiditis that many lives will be spared that might otherwise have been lost by the indifference or ignorance of the physician. To me it seems that the average physician knows less about mastoid disease, a condition endangering life, than about glaucoma, of which there is still too little known, and too seldom recognized, a condition in which sight may be lost but in which life is not at stake.

Dr. J. Holinger—I must state that in the two secondary operations I did not operate the first time, but only made the secondary operation. I do not want to have the impression prevail that a secondary operation was necessary after I had done the primary operation.

Dr. Robert Levy, Denver—The operation, it seems to me, shortens very materially the convalescence, whatever else may be said for or against it. The danger of the operation has never seemed to me excessive, although I must confess I approach it with a certain degree of temerity. This is not caused by my own experience, but the experience of others should increase the care with which we approach this operation. Again, the hearing is to a considerable extent much better preserved, and that should enter into our consideration of the necessity for the operation. I have in mind two cases in the same family, the patients being sisters. The first girl was taken during last winter with characteristic symptoms. The family physician did not see the necessity for operation and consequently did not call in consultation. During the time she was progressing slowly and her symptoms were disappearing gradually, the second sister was taken ill, but with so much violence in the attack that the physician could not help calling consultation. The second girl showed some constitutional symptoms. There was a double mastoiditis and she was operated upon. She was taken sick a considerable period of time after the first girl. A double operation was performed at one sitting and she made a very prompt recovery. When she was discharged her sister was still suffering considerable pain and the pus was still being discharged from the ear. The result was that the girl operated upon made a more rapid recovery and has much better hearing than the other girl. It seems to me that it is wise not to irrigate after a free incision in these cases, and in this respect I would beg to differ from Dr. Dench. Sometimes I find a much better procedure is to clean with sterile gauze, and then to drain with sterile gauze instead of irrigating. I am satisfied that in other cases in which irrigating has followed a free incision harm has been done. Another point which was brought out, is the character of the epidemic, so to speak, that should also determine very materially our action in the cases. It seems to me we too seldom make, after a free incision of the drum membrane, a bacteriologic examination. If this is done we may often find help in the determination of the nature of the infection and its prognosis.

Dr. Dench, *in closing*—I am in perfect accord with most of the statements Dr. Holinger makes, but there are one or two things that I do not believe. If we have pus in the mastoid I do not believe that it will be absorbed and the patient get well. But I do believe, as has been said by Politzer and as I mentioned in my paper, that in these cases we have congestion of the mastoid cells and we may then get absorption, but it is my experience that this never occurs after the formation of pus. In the epidemics of grip in successive years we find the mastoid complications vary exceedingly. In the present epidemic of grip, which has been rather severe in New York this year, I have failed to find a case of acute otitis without some tenderness over the mastoid tip. In reference to the use of the sharp spoon in the antrum, I feel as certain that the Doctor is wrong as he feels he is right. I think it is important to carry the sharp spoon down and make the passage from the middle ear to the antrum larger so the ear will drain thoroughly, and if the Doctor does that he will not have the infection of any cell in that neighborhood, because there is no cellular tissue left after you get down to the hard bone.

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DR. ROBERT LEVY, Denver—The operation, it seems to me, shortens very materially the convalescence, whatever else may be said for or against it. The danger of the operation has never seemed to me excessive, although I must confess I approach it with a certain degree of temerity. This is not caused by my own experience, but the experience of others should increase the care with which we approach this operation. Again, the hearing is to a considerable extent much better preserved, and that should enter into our consideration of the necessity for the operation. I have in mind two cases in the same family, the patients being sisters. The first girl was taken during last winter with characteristic symptoms. The family physician did not see the necessity for operation and consequently did not call in consultation. During the time she was progressing slowly and her symptoms were disappearing gradually, the second sister was taken ill, but with so much violence in the attack that the physician could not help calling consultation. The second girl showed some constitutional symptoms. There was a double mastoiditis and she was operated upon. She was taken sick a considerable period of time after the first girl. A double operation was performed at one sitting and she made a very prompt recovery. When she was discharged her sister was still suffering considerable pain and the pus was still being discharged from the ear. The result was that the girl operated upon made a more rapid recovery and has much better hearing than the other girl. It seems to me that it is wise not to irrigate after a free incision in these cases, and in this respect I would beg to differ from Dr. Dench. Sometimes I find a much better procedure is to clean with sterile gauze, and then to drain with sterile gauze instead of irrigating. I am satisfied that in other cases in which irrigating has followed a free incision harm has been done. Another point which was brought out, is the character of the epidemic, so to speak, that should also determine very materially our action in the cases. It seems to me we too seldom make, after a free incision of the drum membrane, a bacteriologic examination. If this is done we may often find help in the determination of the nature of the infection and its prognosis.

DR. DENCH, in closing—I am in perfect accord with most of the statements Dr. Holinger makes, but there are one or two things that I do not believe. If we have pus in the mastoid I do not believe that it will be absorbed and the patient get well. But I do believe, as has been said by Politzer and as I mentioned in my paper, that in these cases we have congestion of the mastoid cells and we may then get absorption, but it is my experience that this never occurs after the formation of pus. In the epidemics of grip in successive years we find the mastoid complications vary exceedingly. In the present epidemic of grip, which has been rather severe in New York this year, I have failed to find a case of acute otitis without some tenderness over the mastoid tip. In reference to the use of the sharp spoon in the antrum, I feel as certain that the Doctor is wrong as he feels he is right. I think it is important to carry the sharp spoon down and make the passage from the middle ear to the antrum larger so the ear will drain thoroughly, and if the Doctor does that he will not have the infection of any cell in that neighborhood, because there is no cellular tissue left after you get down to the hard bone.

Failure to do this is a frequent cause of delayed convalescence and often the cause of a secondary operation being necessary. A little drop of pus may become imprisoned and not be evacuated at the time of operation, but if you use the sharp spoon you will evacuate it. I had a case this winter which brought that out very nicely. I entered the mastoid antrum; with the spoon I opened a cell and found a perforation with pus next to the dura, but separated from the collection in the mastoid antrum by a wall of apparently healthy bone. Simply by that procedure I saved the patient from serious infection. Dr. Payne has asked me about the after-treatment of these wounds. I simply pack them and let them heal up from the bottom. Turning-in of the skin flaps I have used only in the radical operation. As to filling up the large cavities with a blood clot, I have had no experience. One gentleman has had considerable success in filling up the cavities in this way, but I have had no experience with it. In New York they have tried that but the patients had promptly a temperature of 104 or 105, and the clots had to be taken out, and so I have not tried it. I find the operation in the way I do it gives good results and does not leave a very bad scar. As to the effect of gravity, I do not believe it makes much difference whether the patient lies on the back or on the side. As to facial paralysis, I do not think that is of any value as a symptom of mastoiditis; there are quite as many cases of facial paralysis without mastoid involvement as with mastoid involvement.

I am always afraid of peroxid of hydrogen, because the large amount of gas may force infective material into the deeper tissues. If we have a small perforation through the roof of the tympanum exposing the dura and there is an effort on the part of Nature to seal that off with adhesions, these adhesions may be ruptured and you may get a diffuse in place of a circumscribed meningitis. Dr. Woods spoke of the operation upon children in cases of so-called temporal mastoid burrowing abscess which Dr. Sexton described in his book. I am aware that many of those cases do get well with a simple incision, but I think it is unsafe. I was taught a lesson in regard to that by a little patient in whom I evacuated an abscess by simple incision. I did not go into the antrum. Everything seemed to be doing nicely and then the patient became comatose and I found an accumulation of pus over the squamous plate, with perforation through the squamous plate, and the patient died promptly of meningitis. So I think we should go promptly into the mastoid antrum; we should be certain of the condition with which we are dealing. Tip tenderness always indicates a rupture through the tip of the mastoid. If the tenderness spreads up in the direction of the antrum I operate. But I have never gone into a case for tip tenderness alone without rupture through the tip. I have operated upon cases in which I had tip tenderness first and antrum tenderness later on. But I rely upon the antrum tenderness. I do not believe that Dr. Sherman is the only one in this room who has good patients, and my remarks are not based altogether on hospital practice. I do not think that can account for the difference we have in our views. He says bichlorid of a strength of 1 to 5000 is irritating. If that is so we should make it weaker. After you open the tympanic cavity by means of an incision you could not, by forcing a fluid into the canal, drive it out through the mastoid antrum. The air in the mastroid cells would prevent the fluid entering there. While I agree with Dr. Levy that in some cases drainage with gauze may be successful, I do not believe there is any danger in irrigation and I believe that irrigation is the best means of cleansing the canal. In reference to Wilde's incision, I believe it to be absolutely useless. I would rather wait a day and then do a complete mastoid operation. In the first place, Wilde's incision is absolutely unnecessary. If you make an incision in the drum membrane and along the canal you relieve the tension much better than by incision over the mastoid. I do not think Dr. Sherman meant to say that he would wait for symptoms of cerebral involvement before he would operate, for certainly no man would wait for those symptoms before doing so simple an operation. Death from opening the lateral sinus is not likely to occur if the surgeon is careful. The hemorrhage can be stopped entirely by pressure with the finger and then the application of a piece of gauze. You can get at the sinus and do a thorough operation. Dr. Prince asked about the after-treatment. I am glad to hear the Doctor's remarks, for I think he is educating his people in the right direction. In reference to the after-treatment of these cases my practice is, after the incision of the sinus, to control the hemorrhage from above and then to clean out the cavity so that I get free hemorrhage both from above and below. My finger is then placed on the sinus which is bleeding. I then wind up a piece of gauze and pass it in so as to stop the hemorrhage from the sinus by pressure. To prevent infection of the sinus I tampon first the antrum and the mastoid cavity and then I put in a separate gauze tampon between the sinus and the tampon in the mastoid wound so as to wall that off completely from the infected area, that is, provided I have found the sinus healthy. Thus I tampon thoroughly and I have never had an infection. Probably I have done this, taking out clots, some twenty-five times, and I have never had a death. Dr. Amberg spoke about the particular kind of infection. I think that is important but I have never done any work along that line. From a number of colleagues I have heard that the infection most frequently present is the streptococcus infection, and such cases more frequently go on to mastoid involvement than when we have the pneumococcus or staphylococcus infection.

THE PREFERABLE METHOD OF URETERO-URETERAL ANASTOMOSIS.*

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Injuries to the ureters are so common in conjunction with pelvic and abdominal surgery that a familiarity with conservative methods of dealing with them is of great importance. This necessity is particularly noticeable when one reads discussions in which the foremost surgeons of the age report cases of nephrectomy for injuries of the ureter during abdominal operations and for uretero-vaginal fistulæ. It is not necessary to mention here the ease by which most of such grave operations are obviated by more conservative work. Recently I found six cases of this kind reported in one discussion, all of which apparently could have been successfully treated by ureteroplasty. Nor is it necessary to refer to the totally different indications of uretero-ureteral anastomosis and uretero-cystostomy. The former of these two, however, seems to be dreaded and misunderstood. A recent journal review of Von Gubaroff's case mentions the possibility of it for divided ureter when utero-cystostomy can not be done. To one familiar with both operations such a statement approaches the ridiculous. There can be no question that when both operations are practicable uretero-ureteral anastomosis is the better, as it restores the duct to its natural state and does not endanger a faulty vesico-ureteral junction as was noted in the cases of Pozzi, Boari and Polk.

Experiments on the very small ureter of the dog caused an unwarranted fear of urinary leakage and local injurious contraction. A sufficient number of operations have been reported to show that these points of danger have been exaggerated. But two cases of urinary leakage have been mentioned and in these it has not interfered with perfect results. In but one case (Schopf's), the first, has any subsequent narrowing been noted, and in this, to tuberculosis, which caused the fatal result, the narrowing may be attributed.

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* Read in the Section on Obstetrics and Diseases of Women, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

This operation has been done by four different methods, namely, end-to-end, end-in-side, end-in-end, and lateral or side-to-side. These have been modified by different surgeons, as will be later mentioned. The end-in-side, known as the lateral implantation of Van Hook, has been done a sufficient number of times to prove beyond doubt its success. Since the preparation of my paper for the American Gynecological Society last year[1] in which were mentioned five cases, another successful one, done by Dr. George Goodhue, of Dayton, Ohio, has been communicated to me, making six in all.

The end-in-end plan has been followed 12 times, once by Von Gubaroff,[2] once by B. B. Davis,[3] once by myself and nine times quoted in the paper mentioned of last year. In Von Gubaroff's case an operation was done for the removal of an enormous uterine fibrosarcoma and a bit of the right ureter was carried away with it. Death occurred in one month. An autopsy revealed a perfect result of the operation on the ureter. Davis' case ended successfully.

The report of my case is as follows:

E. R., white, 32 years of age, widow, though married fifteen years IV-para, was admitted to Columbia Hospital, May 30, 1900, complaining of pelvic pain and an occasional irregular bloody vaginal discharge which had existed eighteen months, but had recently been much exaggerated though she was in the constant care of a quack doctor. The following day curettage and cauterization with chlorid of zinc was done and June 11 radical operation for cancer of the uterus was performed,[4] removing nearly the whole of the vagina with the uterus, its ligaments and appendages. The left ureter was in a mass of enlarged glands at the iliac bifurcation and about one inch of it was resected. The upper end was invaginated into the lower by the method of Poggi, using three sutures of No. 00 silk, which passed entirely through the lower end and the muscular and fibrous coats of the upper. These were doubly needed and served to pull the upper into the lower end after forcible dilatation of the latter. Over this interrupted catgut sutures were applied. The duct was free for three inches below the point of suture and at one point was sutured to the wall of the pelvis to prevent entanglement in the gauze packing, incident to the operation. She made a complete recovery without leakage and is still in good health.

Thus twelve operations by this method have been done with two deaths, neither of which was attributable to the operation, unless the shock which caused death in one of MacMonagle's three cases was partially due to this feature of the operation. MacMonagle and myself dilated the lower end before making the anastomosis and in the other eight cases the lower end was split on one side for varying distances up to 4 cm. in Von Gubaroff's case.

The end-to-end method has been done, both by transverse and oblique anastomosis. The latter has been done but once on man. In this case, done by myself more than five years ago, the patient is still free from any annoyance from the anastomosis. During the past year Kelly[5] has reported a case done by the transverse plan of this method, which resulted successfully, and which, added to my table prepared last year, makes a total of thirteen cases. Two of the thirteen ended in death in twenty and forty-two days, respectively, from conditions independent of this procedure. Henry Morris, on page 38 of his work on "Renal Surgery," 1898, mentions a case in which he divided a ureter, July 21, 1897, in doing abdominal hysterectomy. The ends were united, but the patient died on the third day. At the autopsy the junction of the two ends was found to be water tight. No description of the method employed is given.

Thus it will be seen the ends of the severed ureter have been united 33 times with no evidence of ureteral incompetency as a result. The side-to-side anastomosis has been done experimentally by D'Urso and De Fabii.[6] It has probably not been done on man.

RESULTS.

Experiments on dogs demonstrated the feasibility of Van Hook's lateral implantation, and on man the results have been equally good. The transverse end-to-end and the end-to-end-methods were dismal failures on dogs. But the oblique end-to-end seemed sufficiently safe on them. The side-to-side anastomosis experiments offer bright prospects in suitable cases. Notwithstanding the bad results attending some of the experimental work not one of the thirty-three operations on man has been unsuccessful, and twenty-six of them were done by the end-to-end plan, which was formerly thought to be impossible, or by the end-in-end method of Poggi that Tuffier and Budinger denounced so unqualifiedly as a result of their experimental work. They found peristalsis of the duct always pulled the upper end out of the lower, an accident that never occurred on man. As previously mentioned, all these methods, as practiced on man, have been highly satisfactory, though in six cases death occurred from conditions foreign to the ureteral injury.

The indications, however, are not the same for all. In a given case one may be easily applicable while another may be well-nigh impossible. Most of these operations have been for accidental section of the ureter. The duct has been firmly ligated above, or both above and below, and it has been crushed by forceps near the site of section. Such cases require a resection at times and in some a section of considerable length has even been unconsciously removed with a tumor of some neighboring structure. Such loss of ureteral tissue also creates one of the conditions to be met in these operations. Another one, encountered by Emmet and Kelly, is dilatation of the upper end and still another is the direction of the cut severing the ureter. The thickness of this duct is occasionally of the utmost importance.

According to Van Hook's description of his method of lateral implantation, one and a half inches of the duct must be utilized in the operation. The lower end is ligated and, beginning 0.5 cm. below the ligature, a longitudinal slit 1 cm. in length is made in it. Through this opening is drawn the upper cut end, by means of sutures passing outwardly through its wall some distance from its end. These pass outwardly through the wall of the receiving end of the ureter 1 cm. below the incision, or 2.5 cm. from the ligature. As the ligature is probably placed at least 1 cm. from the end, these sutures penetrate the wall of the lower fragments at least 3 cm. from the cut end. They have previously passed through the upper part about 1 cm. from the cut end. Therefore, when these sutures are tied they coaptate points of the ureter that have been at least 4 cm. distant from each other. This is in the normal ureter. In Emmet's case, in which the upper end was dilated, the slit in the lower end must have been correspondingly longer, having always to be equal to the circumference of the introduced end. For the side-to-side method fully as much length of the ureter will be necessary. For the end-to-end method it is evident some portion of the length of the duct will be required. Robson found it necessary to utilize one inch of it in his case. Noble split the lower end three-eighths of an inch and the invaginated end probably passed fully as far beyond the split, making three-quarter inch invagination. In my case, in which the Pozzi plan was followed, the invagination was but about three-eighths of an inch. In the oblique end-to-end plan the amount of waste tissue varies from nothing, when the severing incision is oblique, to an amount depending upon the extreme diameter of the ureter with transverse ends, probably never more than three-quarters of an inch. It is readily understood that an oblique section of the ureter, by accident or otherwise, is readily sutured end-to-end, without loss of continuity. But if the section be transverse and the ends trimmed obliquely loss of continuity will depend in amount upon the degree of obliquity and the extreme diameter of the duct at the point of suturing. In the transverse end-to-end no loss of continuity is necessary to the process, provided the section has been made transversely. It will thus be seen the transverse end-to-end makes no demand on the length of the ureter, the oblique end-to-end requires a small amount. the end-to-end from three-eighths of an inch, by the Poggi method, to 4 cm. by Von Gubaroff's modification, the side-to-side about one and a half inches, and the Van Hook plan at least the same amount. In such cases as Emmet's, done by this plan, and Kelly's, by the transverse end-to-end, in which the upper end was much dilated, considerably more of the length of the duct would be required by the Van Hook method. Fortunately this duct is very elastic and can be successfully repaired if even three inches of its length be lost, without loosening the kidney and anchoring it nearer the bladder. But an operation that requires at least one and a half inches for such union will not be as applicable as one requiring less or even none of its length for this purpose, as shown by Allen's case. It would, therefore, seem the transverse end-to-end must be the preferable method so far as length of the ureter is concerned, except when the ends are already cut obliquely, in which case the oblique method would be the most economical. Next would come the end-to-end plan of Poggi, or the oblique end-to-end, next the Robson modification of the Poggi, and least available, the Van Hook, which practicably is inapplicable when more than an inch and a half of the duct has been cut away, or the side-to-side plan of D'Urso and De Fabii. When the upper end alone is dilated, as occurred in the two cases mentioned, the oblique end-to-end and the side-to-side are clearly the best plans to adopt. It is very difficult to get a large end into the lumen of a much smaller one, as related by Emmet, or to unite them transversely, end-to-end, as done by Kelly. In the former great forcible dilatation of the lower end is necessary, whether this enlargement be from urinary stasis, or thickening of the duct due to inflammation about a calculus, or other cause. And in such as Kelly's, considerable puckering of the upper end is liable to occur, unless a slender triangular piece be cut from one side of it, which complicates the operation and invites failure. In such cases the lower end could well be cut obliquely, thus giving a larger surface for approximation with the transverse end of the larger upper end. This would prevent puckering in the end-to-end and choking of the lower end in the Van Hook operation, and would not cause any urinary stoppage from angulation. The danger from this latter should not be expected to be as much as by the Van Hook operation, in which it has been proved, by Bloodgood, to be practically nothing in the normal ureter. If both ends are dilated, one of the end-to-end methods would be particularly easy, and even the Poggi would be simplified, but the Van Hook would be still less applicable, because of the necessity of increasing the lateral slit to receive the large upper end. On theoretical grounds constriction at the site of union should occur in the Poggi and Van Hook operations, but it has not been known in man. Whether such condition would result were the injury at either of the three narrow points of the ureter is yet to be learned. Certainly the end-to-end methods seem less likely to be followed by local undue narrowing of the duct.

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[1] Annals of Surgery, 1900, xxxii, 165-194.

[2] Centralbl. f. Chir., Feb. 2, 1900, abstracted in Phil. Med. Jour., 1901, vii, 888.

[3] JOURNAL A. M. A., 1900, xxxv, 1669.

[4] Am. Gyn. and Obst. Jour., April, 1901.

[5] JOURNAL A. M. A., 1900, xxxv, 862.

[6] Supplemental Policlinico, Roma, 1898-9, v, 1249-1250.

From the points mentioned, the end-to-end or the end-in-end method are applicable to every case in which the end-in-side or side-to-side plans could be used, with one single exception. The reverse can not be said. With the improved technique they are as safely done and in even less time. It would, therefore, seem the ingenious plan of our splendid American surgeon, Van Hook, would scarcely ever be needed, that the end-to-end plan is most applicable, and next to it, the Poggi end-to-end. With these two latter methods the surgeon should be able to successfully repair any injury to the ureter, except of its very lowest part, involving a loss of its length not exceeding three inches.

OSMOTIC PRESSURE AND ITS RELATION TO UREMIC MANIFESTATIONS.

A CONTRIBUTION TO THE PATHOGENESIS OF UREMIA AND KINDRED AFFECTIONS.*

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It seems to me that we were laboring in a wrong direction when we—though in vain—tried to fasten the origin of uremia and kindred conditions upon a purely physiologico-chemical basis. By this I do not mean to imply that the various excrementitious substances which, by their retention in the blood, are alleged to give rise to these grave disorders, remain without any influence whatsoever upon the causation of the latter. Their participation, however, primarily at least, I deem not of a purely chemico-toxic nature.

Most of these effete products, with the exception of some inorganic urinary constituents, in themselves are, if at all toxiferous, certainly to a limited degree only. The greatest poisonous qualities are exhibited by the potassium salts—the chlorid, sulphate and phosphate of potassium. They are, however, contained in too insignificant amounts in the blood serum, even when an accumulation has taken place, to ever call forth paramount toxic phenomena. Besides, the syndrome of potassium is not entirely congruous with that of the uremic state. Intermediate substances in sufficient quantities to give rise to toxemia enter the blood current but rarely, and in case they do the subsequent intoxication is certainly not one to be confounded with uremia.

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* Read in the Section on Practice of Medicine, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

Intravenous injection of urine, first attempted by Feltz and Ritter, and later taken up with great vigor by Bouchard and his followers, has virtually demonstrated nothing beyond the facts known to us before, viz., the symptom-complex which we designate as uremia is not the consequence of a single toxic principle, but it results from the retention of all those substances which normally enter into the composition of urine.

Ignoring a hypothetic toxalbumin, which if present at all can not be a primary excitor, we do not find in the blood of uremia any other factors but those prevalent in the normal state. The only difference lies in the quantity. Uremia thus being an auto-intoxication by retention of normal products of metabolism and catabolism, in the first instance, is therefore rather due to a physical than a chemical anomaly.

OSMOTIC PRESSURE.

A salt or an organic compound which, when added to a liquid, unites homogeneously with it, is soluble in the liquid. If such a solution is brought into contact with the same solvent or with a less concentrated solution of its own nature, a transmission of the substance in solution will ensue and continue until both solutions have attained a congruous degree of concentration. This power of migration of the molecules is known as diffusion. If, on the other hand, the more concentrated solution is prevented from coming into direct contact with the solvent or the solution of lesser density by a semi-permeable membrane, permitting the passage of the solvent but not that of the particles of the dissolved substance, the inherent energy of the latter will display itself by exerting a certain pressure upon the membrane. This energy, designated as the osmotic pressure of dissolved substances, is analogous to the pressure of gases, is subjected to the same laws as the latter, and varies with the quantity of the salt or organic substance in solution. Accordingly, diffusion and osmotic pressure are but different phenomena of one and the same energy. If the latter manifest itself by the migration of particles of substances in solution it is diffusion; if by tension, it is osmotic pressure. Osmotic pressure is dependent upon the molecular concentration of the solution. In the first instance the degree of osmotic tension of a solution is determined by the number and not by the weight of molecules in a known volume of solution.

It is analogous with the pressure of gases and is an enunciation of the kinetic energy of the molecules. The importance of the osmotic processes for the organism in the healthy as well as in the pathologic condition has of late only found due consideration. All organic matter is saturated with water. The cells of the body are more or less permeable by water. This is the solvent for the salts introduced with the nutriment. If the contents of the organism on soluble salts and on water remain unaltered, so that for a certain period neither salts nor water are introduced nor eliminated, all the watery constituents of the organism would become one homogeneous liquid, and the same osmotic pressure would prevail over the entire system, in the cells as well as in the extracellular liquids.

Such an absolute equilibrium between intracellular and extracellular fluids, although the organism aspires to it during all phases of life, in reality does never occur in the normal state; for the moment fresh nutrient salt molecules are dissolved by, or thrown out of, the solution the equivalence of the osmotic pressure ceases to exist.

Augmentation of osmotic pressure in the cell through increase of dissolved molecules may call forth the following eventualities:[1]

1. If the cell walls are fully permeable for the salt molecules, these will pass from the cell, the place of higher concentration, to such of lower density, until the equilibrium is re-established.
2. If the cell wall is impermeable for the salt molecules, these will exert a pressure upon the former and water will penetrate into the cell; this is followed at first by concentration of the liquid in the immediate surroundings of the cell, and later on by uniform concentration of the liquid in a larger circumference.
3. If the cell wall is to some degree only, but not absolutely, impermeable for the salt molecules, a migration of the latter from the cell and an infiltration of water will ensue synchronously; thus a process of diffusion occurs with one of osmosis.

THE OSMOTIC CONDITIONS IN THE BLOOD.

The osmotic pressure of a solution for physiological purposes is generally compared with that of the blood serum. By the term "isotonic solution" we understand one which exerts an osmotic pressure alike to that of the serum; by the term "hypertonic solution," one whose osmotic pressure is greater than that of the serum; and by "hypotonic solution," one whose osmotic pressure is beneath that of the serum. If a drop of blood is permitted to fall into distilled water, the salts and coloring matter of the corpuscles are dissolved out. This phenomenon will not occur if, instead of distilled water, a salt solution of certain concentration is employed. The corpuscles, unaltered, slowly descend to the bottom of the vessel. A salt solution of just sufficient concentration to prevent the escape of the coloring material from the erythrocytes is tonic. Every specimen of blood thus requires a specific salt concentration.

Plasma and serum are always hypertonic, that is, they exert a greater osmotic pressure than do the salt solutions which are isotonic with the blood corpuscles. Were the former's concentration but isotonic it would not suffice to prevent corpuscular disintegration during active metabolism, as the admittance of but a limited amount of water into the circulation would cause a solution of a part of the corpuscles. The salts derived from the disintegrated erythrocytes increase the concentration of the surrounding liquid, thus checking further corpuscular solution.

The osmotic pressure of the plasma may be subjected to certain fluctuations during the course of the day, the most pronounced deviation from the mean occurring in the early afternoon hours. The fluctuations in osmotic tension must be due to an increase or decrease of salts in solution. We may assume that either the contents or salts of the plasma remain stationary, and the water diminishes, or that the amount of the latter persists unchanged and that new salt particles are carried into the plasma. Without going into further details as regards this point, I merely wish to state that, according to my observation,[2] the somewhat augmented afternoon alkalescence of the blood and the diminished urinary acidity or the latter's alkalinity during the same period occur independently from the ingesta, at least to a certain degree. The ingesta in this respect seem to act as accidental modifiers only. The increased osmotic pressure of the plasma and serum during the afternoon hours—it being entirely dependent upon the latter's concentration and consequently on the amount of salts dissolved in it—appears to be due to the same causes as is the increased alkalescence of the blood, that is, to certain processes in association with internal respiration or oxidation. Naturally the direct introduction of a sodium chlorid solution or the injection of large amounts of sodium chlorid or some other salts results in an increased osmotic tension of the blood plasma. The ingestion of water reduces the osmotic pressure to a limited degree; the more directly water is introduced into the blood current the more certain and pronounced is the action in this regard; by whatever mode water is introduced, however, the decline in osmotic tension is but for a very brief period.

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[1] Koeppe: Physikalische Chemie, etc., 1900.

[2] Heinrich Stern: Some Observations on the Chemical Reaction of Human Urine; Med. Rec., Oct. 29, 1898; and Some Observations on the Relation of the Alkalescence of the Blood to the Urinary Reaction; Med. Soc. of the County of N. Y., May 27, 1901.

The molecules of a number of compounds—salts, bases and acids—when dissolved are divided up, are dissociated into ions. The higher the dilution the more perfect the dissociation as a general rule. The electrical conductivity of a liquid is dependent on the movements of the ions which themselves are charged with electricity.

Substances capable of undergoing dissociation are electrolytes; an ion plays the same rôle in regard to osmotic pressure as a molecule. The osmotic pressure of an electrolyte, when dissolved, is dependent on the degree of its dissociation.

The more organic molecules or inorganic molecules in organic combination are contained in a liquid, the lower is its electrical conductivity. Blood-serum among the body liquids possesses a relatively high electrical conductivity; on the other hand, the blood-corpuscles, whose molecules are organic and whose salts are in organic combination, exhibit but minute conductive qualities.

There is no vital process, be it ever so unimportant, in which diffusion or osmosis does not participate. Conditions for the involvement of osmotic pressure always exist in the organism, for where and whensoever two solutions come in contact by means of a semipermeable wall, as for instance intracellular and extracellular liquids, osmotic tension is displayed. Circulation of blood and lymph, the various glandular secernments, urogenesis, and poiesis, are such processes, in the discharge of which osmotic pressure is a most potent factor.

The albumin molecule is a complex molecule. On account of its non-solubility it does not per se exert any influence upon the osmotic qualities of the body liquids. The soluble products of cell catabolism necessarily enhance the osmotic tension of the latter. It has been found that the solubility of the products of retrograde albumin metamorphosis stands in direct relation to the intensity of cellular oxidation. When oxygen is freely admitted to the tissues, soluble products of albumin disintegration are the result; the reverse ensues—that is, with difficulty soluble compounds are the outcome—when the internal oxidation has been reduced. In other words, normal intra-organic oxidation is followed by an increase of osmotic pressure in the body fluids, while diminished tissue oxidation exerts but little influence on osmotic tension.[3]

The conveyance of the soluble products of albumin disintegration, of sulphates, phosphates and urea, or its precursor into the lymph of the tissues, augments the latter's molecular concentration. The increased osmotic qualities thus exhibited tend to the withdrawal of water from the blood current to the lymph

When the crystalloid products, by their accumulation, occur in a higher concentration in the lymph than in the blood, they "diffundate" toward the latter, that is, they are dissolved by the blood-water. In this manner the products of metabolism and catabolism find entrance into the blood which carries them to the kidney, from which they are excreted.

In the same volume of water urine contains about three times as many molecules in solution as blood (Koranyi). Hence the assumption that the kidneys are instrumental in lowering the osmotic pressure of the total blood, and that they thus contribute materially toward the maintenance of a perpetual discrepancy in the osmotic pressure of the blood on the one side, and intercellular liquid and lymph on the other. The more of these crystalloid substances excreted by a certain volume of urinary water, the greater will be the resulting difference in osmotic tension between the blood and intercellular liquid, the faster will be also the motion of the lymph current. Accordingly, the osmotic conditions of the blood, intracellular liquids and lymph are reflected in the osmotic tension of the urine.

The foregoing outlines relating to the nature of osmotic pressure and to the osmotic conditions in the organism, although brief and in many respects incomplete, suffice for our present purpose.

UREMIA AS A DISTURBANCE OF OSMOTIC TENSION.

When the excretory activity of the kidney is materially interfered with, be it on account of a structural or functional anomaly or of both these together, the products of retrograde tissue metamorphosis already formed at the beginning of renal inactivity are retained in the blood. If the intensity of the metabolic processes has not become synchronously diminished, the crystalloid compounds rapidly accumulate in the blood current; they diffuse but slowly toward the latter if intra-organic oxidation is lessened substantially. Be that as it may, the concentration of the blood plasma is inevitable in either eventuality. A portion of the dissolved crystalloids may be excreted by other emunctories; however, this can be a comparatively small amount only, which, moreover, is not followed by a decrease in plasma concentration, as water is simultaneously secerned with the effete matters.

The great number of molecules dissolved in the plasma exert a high osmotic tension, and tend to "diffundate" toward the less concentrated body liquids. At this time the intercellular liquid in certain tissues may already possess a greater concentration than the blood plasma. Ultimately all the fluids of the body exhibit a similar degree of concentration.

This high degree of concentration is accompanied by a series of manifestations co-ordinate and successive, which have been grouped together under the designation of "uremia." This is really, if we may call it so, a mechanical intoxication, not one of chemical origin, not the obnoxious results of one or more substances, but the consequences of an abnormal increase in osmotic tension of the blood plasma and the fluids of the body. The symptoms of a secondary intoxication, due probably to the presence of large amounts of potassium salts, may further complicate the clinical picture.[4]

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[3] Poehl: D'un rapport entre les oxydations intraorganiques et la production d'énergie cinétique dans l'organisme, Comptes Rendus de l'Académie des Sciences; Paris, 24 Avril, 1899.

The phenomena which occur in the blood after the injection of large amounts of concentrated salt solutions are the same as those in uremia; they make their appearance together with the increase in the concentration of the blood when the elimination of the accumulated substances from the blood, on account of the exhaustion of the resorptive qualities of the tissues, does not occur any longer.[5]

Novi[6] noticed tonic and clonic convulsions in dogs after intravenous injection of a 10 per cent. sodium chlorid solution, in such amounts that the blood had attained twice its former concentration.

In maintaining that the origin of these convulsions is due to withdrawal of water from the cortex cerebri, Novi, who could not then (1887) know of the more recent teachings of osmosis, practically occupies the same standpoint as the present writer.

The great number of sodium chlorid molecules introduced into the blood current exerted a high osmotic pressure, water passed from the tissues to the blood, the latter became more diluted, while the surrounding tissues and organs for the time being were deprived of some portion of their liquid. After a time the withdrawn fluids were again in the tissues, but they all exhibited a uniform high concentration.

The convulsive and other manifestations of uremia and kindred affections are attributable to the abnormally increased osmotic tension of the blood plasma and the fluids of the body in general; all or almost all of the substances which are forming urinary osmotic pressure —in an equal volume of water normally three times as large as that of the blood—are retained in the system.[7]

According to Landois,[8] the point of attack and the origin of the uremic convulsive phenomena is situated without any doubt in the psychomotor centers of the cortex cerebri. There is really nothing opposed to the view that the convulsions are caused by the same physical factors which give rise to similar phenomena after the injection of large amounts of stronger salt solutions. Landois, to be sure, alleges that the continuous irritation of some part of the central nervous system by the salts and excrementitious matters retained in the blood forms the premonitory stage of eclampsia. He bases his assumption upon experimental researches, in which he found that extractive matters and salts, applied upon the psychomotor centers of the cortex cerebri in dogs, call forth pronounced convulsive attacks resembling in all particulars the eclamptic or uremic convulsions in men. While Landois thus furnished conclusive evidence that the uremic convulsions take their origin in the external layer of the gray matter of the brain, he does not account satisfactorily for the mode of production of the continuous irritation. This, I conclude, may be accredited to the increased osmotic tension of the blood plasma and the body liquids in general.

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THE FIGHT AGAINST TUBERCULOSIS IN THE LIGHT OF THE EXPERIENCE GAINED IN SUCCESSFUL COMBAT OF OTHER INFECTIOUS DISEASES.[*]

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The task with which this Congress will have to busy itself is one of the most difficult, but it is also one in which labor is most sure of its reward.

I need not point again to the innumerable victims tuberculosis annually claims in all countries, nor to the boundless misery it brings on the families it attacks. You all know that there is no disease which inflicts such deep wounds on mankind as this. All the greater, however, would be the general joy and satisfaction if the efforts that are being made to rid mankind of this enemy, which consumes its inmost marrow, were crowned with success.

There are many, indeed, who doubt the possibility of successfully combating this disease, which has existed for thousands of years, and has spread all over the world. This is by no means my opinion. This is a conflict into which we may enter with a surely founded prospect of success, and I will tell you the reasons on which I base this conviction.

TUBERCULOSIS A PREVENTABLE DISEASE.

Only a few decades ago the real nature of tuberculosis was unknown to us; it was regarded as a consequence, as the expression, so to speak, of social misery, and, as this supposed cause could not be got rid of by simple means, people relied on the probable gradual improvement of social conditions, and did nothing. All this is altered now. We know that social misery does indeed go far to foster tuberculosis, but the real cause of the disease is a parasite—that is, a visible and palpable enemy, which we can pursue and annihilate, just as we can pursue and annihilate other parasitic enemies of mankind.

Strictly speaking, the fact that tuberculosis is a preventable disease ought to have become clear as soon as the tubercle bacillus was discovered, and the properties of this parasite and the manner of its transmission became known. I may add that I, for my part, was aware of the full significance of this discovery from the first, and so will everybody have been who had convinced himself of the causal relation between tuberculosis and the tubercle bacillus. But the strength of a small number of medical men was inadequate to the conflict with a disease so deeply rooted in our habits and customs. Such a conflict requires the co-operation of many, if possible of all, medical men, shoulder to shoulder with the State and the whole population. The moment when such co-operation is possible seems now to have come. I suppose there is hardly any medical man now who denies the parasitic nature of tuberculosis, and among the non-medical public, too, the knowledge of the nature of the disease has been widely propagated.

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[4] The blood of uremia, when injected into the circulation of animals, in spite of all precautions taken, does not exhibit the exact character which it possessed before its removal from the body; the nature of its toxicity may have changed to some degree, although phenomena analogous to those of uremia may be produced when it is injected. Certainly the introduction into the venous system of a comparatively small quantity of highly concentrated blood, or serum, can not there set up a similar high concentration of all the body fluids. On the other hand, the transfused blood may contain organic material which became obnoxious only after it had been removed from the organism. The serum of some convulsive patients appears to possess an abnormally high toxicity. This increased poisonousness is not exhibited by all uremic sera. I am of the opinion that such a serum attains virulency only after the blood has been removed from the body for some time. If the toxicity of uremic blood is to be determined, direct transfusion should be employed.

[5] Ludwig Lindemann: Die Concentration des Harns und Blutes bei Nierenkrankheiten mit einen Beitrag zur Lehre von der Urämie: Deutsch. Arch. f. Klin. Med., 65, 1-80. (Referat von Andreasch in Jahres Bericht ueber die Fortschritte der Thier Chemie, etc., 1900.)

[6] Lo sperimentale, 1887.

[7] If complete anuria prevails so that no water at all is eliminated, a hydremic condition, as observed by some clinicians, may ensue, but only when the reactive stage has been reached. The general uremic attack is dependent on a high concentration of the blood.

[8] Die Urämie, Zweite Auflage, 1891.

[*] An address delivered before a general meeting of the British Congress on Tuberculosis, London, July 23, and published concurrently with its appearance in the British Medical Journal, through courtesy of the Editor.

Another favorable circumstance is that success has recently been achieved in combating several parasitic diseases, for we have learned from these examples how the conflict with pestilences is to be carried on.

SPECIAL PREVENTIVE MEASURES NEEDED FOR VARIOUS DISEASES.

The most important lesson we have learned from this experience is that it is a great blunder to treat pestilences according to a general scheme. This was done in former times; no matter whether the pestilence in question was cholera, plague, or leprosy; isolation, quarantine, useless disinfection were always resorted to. But now we know that every disease must be treated according to its own special individuality, and that the measures to be taken against it must be most accurately adapted to its special nature, to its etiology. We are entitled to hope for success in combating tuberculosis only if we keep this lesson constantly in view. As so very much depends just on this point, I shall take the liberty to illustrate it by several examples.

Plague.—The pestilence which is at this moment in the foreground of interest, the bubonic plague, may be instructive to us in several respects.

People used to act upon the conviction that a plague patient was in the highest degree a center of infection, and that the disease was transmitted only by plague patients and their belongings. Even the most recent international agreements are based on this conviction. Although, as compared with formerly, we now have the great advantage that we can, with the aid of the microscope and of experiments on animals, recognize every case of plague with absolute certainty, and although the prescribed inspection of ships, quarantine, the isolation of patients, the disinfection of infected dwellings and ships, are carried out with the utmost care, the plague has, nevertheless, been transmitted everywhere, and has in not a few places assumed grave dimensions. Why this has happened we know very well, owing to the experience quite recently gained as to the manner in which the plague is transmitted. It has been discovered that only those plague patients that suffer from plague-pneumonia—a condition which is fortunately infrequent—are centers of infection, and that the real transmitters of the plague are the rats. There is no longer any doubt that, in by far the majority of cases in which the plague has been transmitted by ocean traffic, the transmission took place by means of plague among the ship rats. It has also been found that wherever the rats were intentionally or unintentionally exterminated the plague rapidly disappeared; whereas at other places, where too little attention had been paid to the rat plague, the pestilence continued. This connection between the human plague and the rat plague was totally unknown before, so that no blame attaches to those who devised the measures now in force against the plague if these measures had proved unavailing. It is high time, however, that this enlarged knowledge of the etiology of plague be utilized in international as well as in other traffic. As human plague is so dependent on rat plague, it is intelligible that protective inoculation and the application of antitoxic serum have had so little effect. A certain number of human beings may have been saved from the disease by that, but the general spread of the pestilence has not been hindered in the least.

Cholera.—With cholera the case is essentially different; it may under certain circumstances be transmitted directly from human beings to other human beings, but its main and most dangerous propagator is *water*, and therefore, in the combating of cholera, water is the first thing to be considered. In Germany, where this principle has been acted on, we have succeeded for four years in regularly exterminating the pestilence (which was introduced again and again from the infected neighboring countries) without any obstruction of traffic.

Hydrophobia.—Hydrophia, too, is not void of instruction for us. Against this disease the so-called protective inoculation proper has proved eminently effective as a means of preventing the outbreak of the disease in persons already infected, but, of course, such a measure can do nothing to prevent infection itself. The only real way of combating this pestilence is by compulsory muzzling. In this matter also we have had the most satisfactory experience in Germany, but have at the same time seen that the total extermination of the pestilence can only be achieved by international measures, because hydrophobia, which can be very easily and rapidly suppressed, is always introduced again year after year from the neighboring countries.

Leprosy.—Permit me to mention only one other disease, because it is etiologically very closely akin to tuberculosis, and we can learn not a little for the furtherance of our aims from its successful combating. I mean leprosy. It is caused by a parasite which greatly resembles the tubercle bacillus. Just like tuberculosis, it does not break out till long after infection, and its course is almost slower. It is transmitted only from person to person, but only when they come into close contact, as in small dwellings and bedrooms. In this disease, accordingly, *immediate transmission* plays the main part; transmission by animals, water, or the like is out of the question. The combative measures, accordingly, must be directed against this close intercourse between the sick and the healthy. The only way to prevent this intercourse is to isolate the patients. This was most rigorously done in the Middle Ages by means of numerous leper houses, and the consequence was that leprosy, which had spread to an alarming extent, was completely stamped out in Central Europe. The same method has been adopted quite recently in Norway, where the segregation of lepers has been ordered by a special law. But it is extremely interesting to see how this law is carried out. It has been found that it is not at all necessary to execute it strictly, for the segregation of only the worst cases, and even of only a part of these, sufficed to produce a diminution of leprosy. Only so many infectious cases had to be sent to the leper houses that the number of fresh cases kept regularly diminishing from year to year. Consequently the stamping-out of the disease had lasted much longer than it would have lasted if every leper had been inexorably consigned to a leper house, as in the Middle Ages; but in this way, too, the same purpose is gained—slowly, indeed, but without any harshness.

SPUTUM THE MAIN SOURCE OF INFECTION IN TUBERCULOSIS.

These examples may suffice to show what I am driving at, which is to point out that, in combating pestilences, we must strike at the root of the evil, and must not squander force in subordinate ineffective measures. Now the question is, what has hitherto been done, and what is about to be done against tuberculosis, really strikes the root of tuberculosis, so that it must sooner or later die.

In order to answer this question it is necessary first and foremost to inquire how infection takes place in tuberculosis. Of course, I presuppose that we understand by tuberculosis only those morbid conditions which are caused by the tubercle bacillus.

In by far the majority of cases of tuberculosis the disease has its seat in the lungs, and has also begun there. From this fact it is justly concluded that the germs of the disease, that is, the tubercle bacilli, must have got into the lungs by inhalation. As to the question where the inhaled tubercle bacilli have come from, there is also no doubt. On the contrary, we know with certainty that they get into the air with the sputum of consumptive patients. This sputum, especially in advanced stages of the disease, almost always contains tubercle bacilli, sometimes in incredible quantities. By coughing, and even speaking, it is flung into the air in little drops, that is, in a moist condition, and can at once infect persons who happen to be near the coughers. But it may also be pulverized when dried, in the linen or on the floor, for instance, and get into the air in the form of dust.

In this manner a complete circle, a so-called *circulus vitiosus,* has been formed for the process of infection from the diseased lung, which produces phlegm and pus containing tubercle bacilli, to the formation of moist and dry particles (which, in virtue of their smallness, can keep floating a good while in the air), and finally to new infection, if particles penetrate with the air into a healthy lung and originate the disease anew. But the tubercle bacilli may get to other organs of the body in the same way, and thus originate other forms of tuberculosis. This, however, is considerably rarer. The sputum of consumptive people, then, is to be regarded as the main source of the infection of tuberculosis. On this point, I suppose, we are all agreed. The question now arises whether there are not other sources too, copious enough to demand consideration in the combating of tuberculosis.

Great importance used to be attached to the hereditary transmission of tuberculosis. Now, however, it has been demonstrated by thorough investigation that, though hereditary tuberculosis is not absolutely nonexistent, it is nevertheless extremely rare, and we are at liberty, in considering our practical measures, to leave this form of origination entirely out of account.

DIFFERENCES BETWEEN HUMAN AND BOVINE TUBERCULOSIS.

But another possibility of tuberculous infection exists, as is generally assumed, in the transmission of the germs of the disease from tuberculous animals to man. This manner of infection is generally regarded nowadays as proved, and as so frequent that it is even looked upon by not a few as the most important, and the most rigorous measures are demanded against it. In this Congress also the discussion of the danger with which the tuberculosis of animals threatens man will play an important part. Now, as my investigations have led me to form an opinion deviating from that which is generally accepted, I beg your permission, in consideration of the great importance of this question, to discuss it a little more thoroughly.

Genuine tuberculosis has hitherto been observed in almost all domestic animals, and most frequently in poultry and cattle. The tuberculosis of poultry, however, differs so much from human tuberculosis that we may leave it out of account as a possible source of infection for man. So, strictly speaking, the only kind of tuberculosis remaining to be considered is the tuberculosis of cattle, which, if really transferable to man, would indeed have frequent opportunities of infecting human beings through the drinking of the milk and the eating of the flesh of diseased animals.

Even in my first circumstantial publication on the etiology of tuberculosis I expressed myself regarding the identity of human tuberculosis and bovine tuberculosis with reserve. Proved facts, which would have enabled me to sharply distinguish these two forms of the disease, were not then at my disposal, but sure proofs of their absolute identity were equally undiscoverable, and I therefore had to leave this question undecided. In order to decide it, I have repeatedly resumed the investigations relating to it, but so long as I experimented on small animals, such as rabbits and guinea-pigs, I failed to arrive at any satisfactory result, though indications which rendered the difference of the two forms of tuberculosis probably were not wanting. Not till the complaisance of the Ministry of Agriculture enabled me to experiment on cattle, the only animals really suitable for these investigations, did I arrive at absolutely conclusive results. Of the experiments which I have carried out during the last two years, along with Professor Schütz, of the Veterinary College in Berlin, I will tell you briefly some of the most important.

A number of young cattle which had stood the tuberculin test, and might therefore be regarded as free from tuberculosis, were infected in various ways with tubercle bacilli taken from cases of human tuberculosis; some of them got the tuberculous sputum of consumptive patients direct. In some cases the tubercle bacilli or the sputum were injected under the skin, in others into the peritoneal cavity, in others into the jugular vein. Six animals were fed with tuberculous sputum almost daily for seven or eight months; four repeatedly inhaled great quantities of bacilli, which were distributed in water, and scattered with it in the form of spray. None of these cattle (there were nineteen of them) showed any symptoms of disease, and they gained considerably in weight. From six to eight months after the beginning of the experiments they were killed. In their internal organs not a trace of tuberculosis was found. Only at the places where the injections had been made small suppurative foci had formed, in which few tubercle bacilli could be found. This is exactly what one finds when one injects dead tubercle bacilli under the skin of animals liable to contagion. So the animals we experimented on were affected by the living bacilli of human tuberculosis exactly as they would have been by dead ones; they were absolutely insusceptible to them.

The result was utterly different, however, when the same experiment was made on cattle free from tuberculosis with tubercle bacilli that came from the lungs of an animal suffering from bovine tuberculosis. After an incubation period of about a week the severest tuberculous disorders of the internal organs broke out in all the infected animals. It was all one whether the infecting matter had been injected only under the skin, or into the peritoneal cavity or the vascular system. High fever seat in, and the animals became weak and lean;

some of them died after a month and a half to two months, others were killed in a miserably sick condition after three months. After death, extensive tuberculous infiltrations were found at the place where the injections had been made, and in the neighboring lymphatic glands, and also far advanced alterations of the internal organs, especially the lungs and the spleen. In the cases in which the injection had been made into the peritoneal cavity the tuberculous growths which are so characteristic of bovine tuberculosis were found on the omentum and peritoneum. In short, the cattle proved just as susceptible to infection by the bacillus of bovine tuberculosis as they had proved insusceptible to infection by the bacillus of human tuberculosis. I wish only to add that preparations of the organs of the cattle which were artificially infected with bovine tuberculosis in these experiments are exhibited in the Museum of Pathology and Bacteriology.

An almost equally striking distinction between human and bovine tuberculosis was brought to light by a feeding experiment with swine. Six young swine were fed daily for three months with the tuberculous sputum of consumptive patients. Six other swine received bacilli of bovine tuberculosis with their daily food for the same period. The animals that were fed with the sputum remained healthy and grew lustily, whereas those that were fed with the bacilli of bovine tuberculosis soon became sickly, were stunted in their growth, and half of them died. After three months and a half the surviving swine were all killed and examined. Among the animals that had been fed with sputum no trace of tuberculosis was found, except here and there little nodules in the lymphatic glands of the neck, and in one case a few gray nodules in the lungs. The animals, on the other hand, which had eaten the bacilli of bovine tuberculosis had, without exception (just as in the cattle experiment), severe tuberculous diseases, especially tubercular infiltration of the greatly enlarged lymphatic glands of the neck and of the mesenteric glands, and also extensive tuberculosis of the lungs and the spleen.

The difference between human and bovine tuberculosis appeared not less strikingly in a similar experiment with asses, sheep, and goats, into whose vascular systems the two kinds of tubercle bacilli were injected.

Our experiments, I must add, are not the only ones that have led to this result. If one studies the older literature of the subject, and collates the reports of the numerous experiments that were made in former times by Chauveau, Günther and Harms, Bollinger and others, who fed calves, swine, and goats with tuberculous material, one finds that the animals that were fed with milk and pieces of the lungs of tuberculous cattle always fell ill of tuberculosis, whereas those that received human material with their food did not. Comparative investigations regarding human and bovine tuberculosis have been made very recently in North America by Smith, Dinwiddie, Frothingham, and Repp, and their result agreed with ours. The unambiguous and absolutely conclusive results of our experiments is due to the fact that we chose methods of infection which exclude all sources of error, and carefully avoided everything connected with the stalling, feeding, and tending of the animals that might have a disturbing effect on the experiments.

Considering all these facts, I feel justified in maintaining that human tuberculosis differs from bovine, and can not be transmitted to cattle. It seems to me very desirable, however, that these experiments should be repeated elsewhere, in order that all doubt as to the correctness of my assertion may be removed.

I wish only to add that, owing to the great importance of this matter, our government has resolved to appoint a commission to make further inquiries on the subject.

IS MAN SUSCEPTIBLE TO BOVINE TUBERCULOSIS?

But, now, how is it with the susceptibility of man to bovine tuberculosis? This question is far more important to us than that of the susceptibility of cattle to human tuberculosis, highly important as that is, too. It is impossible to give this question a direct answer, because, of course, the experimental investigation of it with human beings is out of the question. Indirectly, however, we can try to approach it. It is well known that the milk and butter consumed in great cities very often contain large quantities of the bacilli of bovine tuberculosis in a living condition, as the numerous infection experiments with such dairy products on animals have proved. Most of the inhabitants of such cities daily consume such living and perfectly virulent bacilli of bovine tuberculosis, and unintentionally carry out the experiment which we are not at liberty to make. If the bacilli of bovine tuberculosis were able to infect human beings, many cases of tuberculosis caused by the consumption of alimenta containing tubercle bacilli could not but occur among the inhabitants of great cities, especially the children. And most medical men believe that this is actually the case.

In reality, however, it is not so. That a case of tuberculosis has been caused by alimenta can be assumed with certainty only when the intestine suffers first—that is, when a so-called primary tuberculosis of the intestine is found. But such cases are extremely rare. Among many cases of tuberculosis examined after death, I myself remember having seen primary tuberculosis of the intestine only twice. Among the great postmortem material of the Charité Hospital in Berlin ten cases of primary tuberculosis of the intestine occurred in five years. Among 933 cases of tuberculosis in children at the Emperor Frederick's Hospital for Children, Baginsky never found tuberculosis of the intestine without simultaneous disease of the lungs and the bronchial glands. Among 3104 postmortem examinations of tuberculous children, Biedert observed only sixteen cases of primary tuberculosis of the intestine. I could cite from the literature of the subject many more statistics of the same kind, all indubitably showing that primary tuberculosis of the intestine, especially among children, is a comparatively rare disease, and of these few cases that have been enumerated it is by no means certain that they were due to infection by bovine tuberculosis. It is just as likely that they were caused by the widely-propagated bacilli of human tuberculosis, which may have got into the digestive canal in some way or other —for instance, by swallowing saliva from the mouth. Hitherto nobody could decide with certainty in such a case whether the tuberculosis of the intestine was of human or animal origin. Now we can make the diagnosis. All that is necessary is to cultivate in pure culture the tubercle bacilli found in the tuberculous material, and to ascertain whether they belong to bovine tuberculosis by inoculating cattle with them. For this purpose I recommend subcutaneous injection, which yields quite specially characteristic and convincing results. For half a year past I have occupied myself with such investigations, but, owing to the rareness of the disease in question, the number of the cases I have been able to investigate is but small. What has hitherto resulted from this investigation does not support the assumption that bovine tuberculosis occurs in man.

Though the important question whether man is susceptible to bovine tuberculosis at all is not yet absolutely decided, and will not admit of absolute decision to-day or to-morrow, one is nevertheless already at liberty to say that, if such a susceptibility really exists, the infection of human beings is but a very rare occurrence. I should estimate the extent of the infection by the milk and flesh of tuberculous cattle, and the butter made of their milk, as hardly greater than that of hereditary transmission, and I therefore do not deem it advisable to take any measures against it.

HUMAN SPUTUM THE MAIN SOURCE OF HUMAN TUBERCULOSIS.

So the only main source of the infection of tuberculosis is the sputum of consumptive patients, and the measures for the combating of tuberculosis must aim at the prevention of the dangers arising from its diffusion. Well, what is to be done in this direction? Several ways are open. One's first thought might be to consign all persons suffering from tuberculosis of the lungs, whose sputum contains tubercle bacilli, to suitable establishments. This, however, is not only absolutely impracticable, but also unnecessary. For a consumptive who coughs out tubercle bacilli is not necessarily a source of infection on that account, so long as he takes care that his sputum is properly removed and rendered innocuous. This is certainly true of very many patients, especially in the first stages, and also of those who belong to the well-to-do classes, and are able to procure the necessary nursing. But how is it with people of very small means? Every medical man who has often entered the dwellings of the poor, and I can speak on this point from my own experience, knows how sad is the lot of consumptives and their families there. The whole family have to live in one or two small, ill-ventilated rooms. The patient is left without the nursing he needs, because the able-bodied members of the family must go to their work. How can the necessary cleanliness be secured under such circumstances? How is such a helpless patient to remove his sputum, so that it may do no harm? But let us go a step further and picture the condition of a poor consumptive patient's dwelling at night. The whole family sleep crowded together in one small room. However cautious he may be, the sufferer scatters the morbid matter secreted by his diseased lungs every time he coughs, and his relatives close beside him must inhale this poison. Thus whole families are infected. They die out, and awaken in the minds of those who do not know the infectiousness of tuberculosis the opinion that it is hereditary, whereas its transmission in the cases in question was due solely to the simplest process of infection, which do not strike people so much, because the consequences do not appear at once, but generally only after the lapse of years.

FOCI OF TUBERCULOUS INFECTION.

Often, under such circumstances, the infection is not restricted to a single family, but spreads in densely inhabited tenement houses to the neighbors, and then, as the admirable investigations of Biggs have shown in the case of the densely-peopled parts of New York, regular nests of foci of disease are formed. But, if one investigates these matters more thoroughly, one finds that it is not poverty *per se* that favors tuberculosis, but the bad domestic conditions under which the poor everywhere, but especially in great cities, have to live. For, as the German statistics show, tuberculosis is less frequent, even among the poor, when the population is not densely packed together, and may attain very great dimensions among a well-to-do population when the domestic conditions, especially as regards the bedrooms, are bad, as is the case, for instance, among the inhabitants of the North Sea Coast. So it is the overcrowded dwellings of the poor that we have to regard as the real breeding places of tuberculosis; it is out of them that the disease always crops up anew, and it is to the abolition of these conditions that we must first and foremost direct our attention if we wish to attack the evil at its root, and to wage war against it with effective weapons.

This being so, it is very gratifying to see how efforts are being made in almost all countries to improve the domestic conditions of the poor. I am also convinced that these efforts, which must be promoted in every way, will lead to a considerable diminution of tuberculosis. But a long time must elapse ere essential changes can be effected in this direction, and much may be done meanwhile in order to reach the goal much more rapidly.

THE NEED FOR HOSPITALS FOR CONSUMPTIVES.

If we are not able at present to get rid of the danger which small and overcrowded dwellings involve, all we can do is to remove the patients from them, and, in their own interests and that of the people about them, to lodge them better; and this can be done only in suitable hospitals. But the thought of attaining this end by compulsion of any kind is very far from me; what I want is that they may be enabled to obtain the nursing they need better than they can obtain it now. At present a consumptive in an advanced stage of the disease is regarded as incurable and as an unsuitable inmate for a hospital. The consequence is that he is reluctantly admitted and dismissed as soon as possible. The patient, too, when the treatment seems to him to produce no improvement, and the expenses, owing to the long duration of his illness, weigh heavily upon him, is himself animated by the wish to leave the hospital soon. That would be altogether altered if we had special hospitals for consumptives, and if the patients were taken care of there for nothing, or at least at a very moderate rate. To such hospitals they would willingly go; they could be better treated and fed there than is now the case. I know very well that the execution of the project will have great difficulties to contend with, owing to the considerable outlay it entails. But very much would be gained if, at least in the existing hospitals, which have to admit a great number of consumptives at any rate, special wards were established for them in which pecuniary facilities would be offered them. If only a considerable fraction of the whole number of consumptives were suitably lodged in this way, a diminution of infection, and consequently of the sum total of tuberculosis, could not fail to be the result. Permit me to remind you in this connection of what I said about leprosy. In the combating of that disease also great progress has already been made by lodging only a fair number of the patients in hospitals. The only country that possesses a considerable number of special hospitals for tuberculous patients is England, and there can be no doubt that the diminution of tuberculosis in England, which is much greater than in any other country, is greatly due to this circumstance. I should point to the founding of special hospitals for consumptives and the better utilization of the already existing hospitals for the lodging of consumptives as the most important measures in the combating of tuberculosis, and its execution opens a wide field of activity to the State, to municipalities, and to private benevolence. There are many people who possess great wealth, and would willingly give of their superfluity for the benefit of their poor and heavily afflicted fellow creatures, but do not know how to do this in a judicious manner. Here is an opportunity for them to render a real and lasting service by founding consumption hospitals or purchasing the right to have a certain number of consumptive patients maintained in special wards of other hospitals free of expense.

As, however, unfortunately, the aid of the State, the municipalities, and rich benefactors will probably not be forthcoming for a long time yet, we must for the present resort to other measures that may pave the way for the main measure just referred to, and serve as a supplement and temporary substitute for it.

NOTIFICATION.

Among such measures I regard obligatory notification as specially valuable. In the combating of all infectious diseases it has proved indispensable as a means of obtaining certain knowledge as to their state, especially their dissemination, their increase and decrease. In the conflict with tuberculosis also we can not dispense with obligatory notification; we need it not only to inform ourselves as to the dissemination of this disease, but mainly in order to learn where help and instruction can be given, and especially where the disinfection which is so urgently necessary when consumptives die or change their residences has to be effected. Fortunately it is not at all necessary to notify all cases of tuberculosis, nor even all cases of consumption, but only those which, owing to the domestic conditions, are sources of danger to the people about them. Such limited notification has already been introduced in various places in Norway, for instance, by a special law, in Saxony by a ministerial decree, in New York and in several American towns, which have followed its example. In New York, where notification was optional at first and was afterwards made obligatory, it has proved eminently useful. It has thus been proved that the evils which it used to be feared the introduction of notification for tuberculosis would bring about need not occur, and it is devoutly to be wished that the examples I have named may very soon excite emulation everywhere.

DISINFECTION.

There is another measure, closely connected with notification—namely, disinfection, which, as already mentioned, must be effected when consumptives die or change their residence, in order that those who next occupy the infected dwelling may be protected against infection. Moreover, not only the dwellings but also the infected beds and clothes of consumptives ought to be disinfected.

EDUCATION OF THE PUBLIC.

A further measure, already recognized on all hands as effective, is the instructing of all classes of the people as to the infectiousness of tuberculosis, and the best way of protecting oneself. The fact that tuberculosis has considerably diminished in almost all civilized states of late is attributable solely to the circumstance that knowledge of the contagious character of tuberculosis has been more and more widely disseminated, and that caution in intercourse with consumptives has increased more and more in consequence. If better knowledge of the nature of tuberculosis has alone sufficed to prevent a large number of cases, this must serve us as a significant admonition to make the greatest possible use of this means, and to do more and more to bring it about that everybody may know the dangers that threaten him in intercourse with consumptives. It is only to be desired that the instructions may be made shorter and more precise than they generally are, and that special emphasis be laid on the avoidance of the worst danger of infection, which is the use of bedrooms and small, ill-ventilated workrooms simultaneously with consumptives. Of course, the instruction must include directions as to what consumptives have to do when they cough and how they are to treat their sputum.

SANATORIA.

Another measure which has come into the foreground of late, and which at this moment plays to a certain extent a paramount part in all efforts for the combating of tuberculosis, works in quite another direction. I mean the founding of sanatoria for consumptives.

That tuberculosis is curable in its early stages must be regarded as an undisputed fact. The idea of curing as many tuberculous patients as possible in order to reduce the number of those that reach the infectious stage of consumption, and thus to reduce the number of fresh cases, was therefore a very natural one. The only question is whether the number of persons cured in this way will be great enough to exercise an appreciable influence on the retrogression of tuberculosis. I will try to answer this question in the light of the figures at my disposal.

According to the business report of the German Central Committee for the Establishment of Sanatoria for the Cure of Consumptives, about 5500 beds will be at the disposal of these institutions by the end of 1901, and then, if we assume that the average stay of each patient will be three months, it will be possible to treat at least 20,000 patients every year. From the reports hitherto issued as to the results that have been achieved in the establishments we learn further that about 20 per cent. of the patients that have tubercle bacilli in their sputum lose them by the treatment there. This is the only sure test of success, especially as regards prophylaxis. If we make this the basis of our estimates, we find that 4000 consumptives will leave these establishments annually as cured. But, according to the statistics ascertained by the German Imperial Office of Health, there are 226,000 persons in Germany over 15 years of age who are so far gone in consumption that hospital treatment is necessary for them. Compared with this great number of consumptives, the success of the establishments in question seems so small that a material influence on the retrogression of tuberculosis in general is not yet to be expected of them. But pray do not imagine that I wish, by this calculation of mine, to oppose the movement for the establishment of such sanatoria in any way. I only wish to warn against an over-estimation of their importance which has recently been observable in various quarters, based apparently on the opinion that the war against tuberculosis can be waged by means of sanatoria alone, and that other measures are of subordinate value. In reality the contrary is the case. What is to be achieved by the general prophylaxis resulting from recognition of the danger of infection and the consequent greater caution in intercourse with consumptives is shown by a calculation of Cornet's regarding the decrease of mortality from tuberculosis in Prussia in the years 1889 to 1897. Before 1889 the average was 31.4 per 10,000, whereas in the period named it sank to 21.8, which means that, in that short space of time, the number of deaths from tuberculosis was 184,000 less than was to be expected from the average of the preceding years. In New York, under the influence of the general sanitary measures directed in a simple exemplary manner by Biggs, the mortality from tuberculosis has diminished by more than 35 per cent. since 1886; and it must be remembered that both in Prussia and in New York the progress indicated by these figures is due to the first beginnings of these measures. Considerably greater success is to be expected of their further development. Biggs hopes to have got so far in five years that in the city of New York alone the annual number of deaths from tuberculosis will be 3000 less than formerly.

Now, I do indeed believe that it will be possible to render the sanatoria considerably more efficient. If strict care be taken that only patients be admitted for whom the treatment of those establishments is well adapted, and if the duration of the treatment be prolonged, it will certainly be possible to cure 50 per cent., and perhaps still more. But even then, and even if the number of sanatoria be greatly increased, the total effect will always remain but moderate. The sanatoria will never render the other measures I have mentioned superfluous. If their number become great, however, and if they perform their functions properly, they may materially aid the strictly sanitary measures in the conflict with tuberculosis.

CONCLUSION.

If now, in conclusion, we glance back once more to what has been done hitherto for the combating of tuberculosis, and forward to what has still to be done, we are at liberty to declare with a certain satisfaction that very promising beginnings have already been made. Among these I reckon the consumption hospitals of England, the legal regulations regarding notification in Norway and Saxony, the organization created by Biggs in New York—the study and imitation of which I most urgently recommend to all municipal sanitary authorities—the sanatoria, and the instruction of the people. All that is necessary is to go on developing these beginnings, to test, and if possible to increase their influence on the diminution of tuberculosis, and wherever nothing has yet been done, to follow the examples set elsewhere.

If we allow ourselves to be continually guided in this enterprise by the spirit of genuine preventive medical science, if we utilize the experience gained in conflict with other pestilences, and aim, with clear recognition of the purpose and resolute avoidance of wrong roads, at striking the evil at its root, then the battle against tuberculosis, which has been so energetically begun, can not fail to have a victorious issue.

Medical Tours.—For several years the French physicians have organized an annual tour to the various watering-places and spas in France as a trip combining both pleasure and instruction. The Germans are now following their example and two tours are announced, one to be in charge of Baginsky to embrace the saline springs of middle Germany, and the other, personally conducted by von Leyden and Liebreich, by a boat to the watering-places on the North Sea, the first in August, the second toward the end of September. It is proposed to make similar trips an annual institution.

Clinical Reports.

RESECTION OF THE CECUM.

J. H. STEALY, M.D.
FREEPORT, ILL.

In January, 1900, Miss S. presented herself to me complaining of severe and almost constant pain in the right iliac region, and also of persistent constipation, which latter condition at times amounted to obturation. The previous history was negative, the patient having no memory of former illness, nor of intestinal or other disease. The present trouble dated back three years, the pain, constipation, and tendency to obstipation having been the only symptoms complained of. At the time of my first examination she was anemic and slowly losing in weight, but otherwise appeared in reasonably good condition. A tumor, about the size of a small orange, indurated, and with no range of mobility, was made out in the right iliac region. The abdominal muscles were perfectly relaxed. In view of these findings and the progressing nature of the symptoms operation was decided upon.

An incision was made through the right rectus muscle, exposing the mass, which was found to involve the lower three inches of the colon, the cecum, the appendix, which was so involved as to make its identification a matter of extreme difficulty, and three or four inches of the ileum, being at the same time very adherent to the antero-lateral parietes, as well as to the surrounding intestines. The mass was released from its adhesions and excised by resecting the colon four inches above the ileo-cecal valve, and the ileum was severed at an equal distance from the valve. Evidences of glandular metastases were sought, but none found. The No. 3 Murphy button was inserted and held by the usual purse-string suture through both segments, and, although the lumina of the distal and proximal portions differed greatly as to caliber, it was not found necessary to attempt to reduce the size of the lumen of the portion of colon to be anastomosed, no difficulty being experienced in securing a close and perfect approximation of the ends. The line of union was reinforced by a few Lembert sutures and a wick drain inserted. Recovery was without incident, no tympanites or other untoward symptoms having developed, and at no time did the temperature rise above 100. Nourishment was withheld until the fourth day, at which time rectal alimentation was inaugurated, which was maintained for four days more, following which, liquid food was given until the twelfth day, when the button passed. Microscopic examination showed the mass to be old connective tissue.

This case well illustrates the applicability of the ordinary unmodified Murphy button to the resection of intestines of differing lumina, without any preliminary stitching of the larger bowel to reduce its caliber, which must necessarily consume that time, which is such an important factor in successful abdominal surgery.

A LARGE GALLSTONE.

A. L. RUSSELL, M.D.
MIDWAY, PA.

I recently removed, post-mortem, a gallstone from a lady aged 67 years; the stone measuring five and three-quarter by four and a half inches, and weighing 530 grains. The patient died from tubal rupture incident to carcinoma of the uterus, and had never complained of symptoms referable to the gall bladder, though she had been under my care for two years for the uterine growth. Great obesity, an enlarged liver, and absence of symptoms or complaint allowed this feature of the case to go unnoticed. I believe this to be an unusually large specimen.

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PROFESSOR KOCH'S ADDRESS.

The address of Professor Koch, delivered at the British Congress on Tuberculosis on the 23d, and which appears in this issue, is a noteworthy production in several respects. In the first place, any utterance by the discoverer of the tubercle germ, whose name has been intimately associated with acquisitions to our knowledge of the disease, would demand attention, and all the more so now since his views here expressed strike at some of the accepted dogmas, as it were, of the tuberculosis specialists.

It has been taken as a matter of fundamental belief by most of these that the dangers to the human species from tuberculosis in the lower animals, and especially from bovine tuberculosis, are real and formidable, and some have magnified the perils from ingested milk and flesh of diseased animals almost above those from aerial infection by the tuberculosis germ. A few bacteriologists and veterinarians have expressed doubts as to this danger or have reported facts that seemed to point to its minor significance, but they have had on the whole but little influence on the professional views of the majority. The desirability of more facts on this point, as well as the need of more conservatism of statement on the part of advocates of the transmissibility of bovine tuberculosis to man, has been editorially noticed by The Journal in an earlier issue,[1] where attention was called to the lack of evidence in support of the accepted views. In this address Professor Koch puts himself fairly on the side of the minority and it will be of interest to see how far the dictum of this corypheus can swing the pendulum of medical popular opinion on that particular phase of the subject. We shall naturally look for some expression of contrary views, especially since the subjects of tuberculous meat and milk are on the program.

As the discoverer of the tuberculosis germ and one who is identified so largely as a bacteriologist with the germ theory of disease we would naturally expect Professor Koch to attribute the first importance to the direct action of the bacillus. It is possible, however, that he has allowed too little for systemic conditions, and especially the congenital lack of resistance, call it hereditary or not, that we see in the families and descendants of the victims of tuberculosis. The seed is important, but the soil is equally so, and the former is, in the opinion of many competent authorities, far more nearly ubiquitous than the latter. Koch's caution as to the exaggeration of the importance of sanatorium treatment is a timely one; it needs merely the statement of the figures he gives to demonstrate this.

The address as a whole is one that in its general tone will not be out of accord with what we hope will be the spirit of the Congress, that is, a conservative and reasonable one, avoiding the extremes to which the discussions and treatment of this subject of tuberculosis have too often gone.

THE EFFECT OF VASOMOTOR INFLUENCES—ESPECIALLY OF THERMIC ORIGIN—ON THE CONSTITUTION OF THE BLOOD.

Most conflicting conclusions have been reached as a result of investigations by different observers into the influence of thermal agencies applied to the surface of the body upon the constitution of the blood. Thus, a reduction in the number of blood-corpuscles, that is, a diminution in the density of the blood, in the affected capillary area and the reverse conditions in the rest of the body have been found as a result of cold baths; and an increase in the number of corpuscles, that is, an increase in the density of the blood in the affected capillary area and the reverse conditions in the remainder of the body as a result of the action of heat. Precisely opposite results are described by others, although all are agreed that the changes are but transitory. Equal differences of opinion exist with reference to the explanation of the phenomena observed, which by some are attributed to alteration in the distribution of the blood, or the removal of stasis, while others ascribe them to a decrease or an increase in the amount of water present in the affected capillary area. The leucocytes likewise have by some been found increased and by others diminished in number.

In an endeavor to clear up in some degree the existing confusion, Dr. Ernst Becker[1] undertook a careful enumeration of the red and white blood-corpuscles in a series of cases, some of which were exposed to a cold douche of short duration and others to a cold bath of longer duration. Comparative observations were also made of blood from the median vein. It appeared that the number of red and white blood-corpuscles is, under normal conditions, approximately the same in the capillaries and the related veins. As a result of the influence of cold upon the entire surface of the body an increase in the number of red and white blood-corpuscles was found in the capillaries of the skin, more marked with relation to the leucocytes. An increase in the number of erythrocytes was demonstrable likewise in the veins, while the number of leucocytes was generally diminished, and always distinctly less after the action of cold than in the related capillaries. These changes had almost wholly disappeared in the course of an hour, when often there was a reduction in the number of red corpuscles, even as compared with the condition prior to the application of cold.

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[1] Jan. 27, 1900, xxxiv, p. 238.

[1] Deutsches Archiv f. Klin. Medicin, 70 B., 1. u. 2 H., S. 17.

The results described are, it is thought, due to two distinct influences, namely, the effect upon the blood in general, as a whole, and a special effect upon the leucocytes. As a result of contraction of the vessels n consequence of vasomotor influences, positive pressure s exerted and the blood is forced through the capillaries into the veins, while blood-serum escapes in part into the tissues. On the other hand, when dilatation of the blood-vessels occurs in consequence of vasomotor paresis, serum conversely is taken up from the tissue. As a result of the influence of cold the eucocytes are retained in the capillaries and form layers upon the walls of the vessels.

From the foregoing, it would appear that as a result of the action of cold upon the entire surface of the body here occurs a slight increase in the number of erythrocytes and generally a marked increase in the number of leucocytes in the capillaries of the skin. These changes in the constitution of the blood are due in part to vasomotor influences and especially to the loss of water from the blood and in lesser degree also to stasis of blood-cells in the capillaries. The increase in the number of leucocytes results besides and in largest measure from the formation of layers upon the vessel-wall in consequence of the action of cold. Under pathologic conditions the changes in the constitution of the blood may be explained also in part by the removal of stasis in limited degree.

THE HEATED TERM.

The present heated term, surpassing as it does all records in many sections of our country, is a matter of interest to physicians. It directly affects the mortality statistics, and would yet more affect those of morbidity were they available. It is, however, to be remembered that it is not necessarily so much the temperature itself as the environment in which it is experienced that affects these figures. Aside from infant sickness and mortality, which to some extent is another story, it is doubtful whether any degree of solar heat felt in ordinary temperate climates is not endurable with comparative comfort and safety, if the means for protection available are employed.

The average healthy adult in the country endures easily hard outdoor work at a temperature that strikes down hundreds in the crowded cities. A sunstroke or even a heat prostration is rare in the harvest field, where men and boys work in sweat-saturated clothing under a blazing sun often at a temperature well above the hundred mark. It is among the degenerates, the physically feeble, the ill-nourished and ill-lodged and intemperate in the great centers that the heat prostrations and other serious results of the heated term are most observed. The greatest aggregate of cost, aside from the effects on the crops, is in the human discomfort—to use the mildest term—that it produces. This is in proportion to the lack of experience of such temperatures; in our northern regions we are ill prepared for prolonged spells of such extreme heat and the known vicissitudes of the climate make us timid in providing for it. It has been said that in the lake region one needs both an ulster and a palm-leaf fan to meet the possible exigencies of a day's outing; the tropical outfit required for our recent experiences is an unknown quantity. Much depends upon the state of mind, as to whether one suffers or not. An idle day with nothing to do but to keep cool, generally taxes all one's philosophy, with the thermometer near 100 and a dash of humidity in the atmosphere to keep down radiation and rub it in. The question whether life is worth living then comes home to us.

Making the best of it, however, the present heated term is a serious matter in many ways. It is not alone in deaths it has caused, for, as already hinted, it probably has more credited to it directly than is its due, but also in the injury to the agricultural interests it promises, and in a hundred other possible ways. What effects on the health of the community will ensue can hardly be foretold, but it is likely it will be more or less debilitating to a large number of persons whose systems are not in a fit state to meet such extremes, and it will be especially trying to infants. The average adult who can avoid bodily exposure and mental strain, who eats only wholesome food and that in moderate quantity, keeps clean, avoids overheating, and chills, and does not stimulate with alcoholics, need not usually worry about his health in a heated term. Man was originally a tropical animal and if he can keep a pathogenic flora and fauna out of his system he can thrive under tropical heat.

ELECTROLYTIC DISSOCIATION OF INORGANIC SALTS INTO IONS.

The recent visit to this country of the great physical chemist, Van't Hoff, professor of physical chemistry in the University of Berlin, and the fact that honorary degrees were conferred upon him by the University of Chicago and Harvard University, may serve to recall briefly and in general elementary terms some part of the more important services rendered to medicine through his epochal investigations in pure physical chemistry, and those of others. The application of the theory of electrolytic dissociation to the study of life phenomena and of certain fundamental problems in physiology is sure to lead to its further application to pharmacologic and pathologic problems, and thus it will come to be a matter of direct, practical interest to the physician.

The development of the theory of electrolytic dissociation starts with the discovery by Traube of precipitation membranes, which permit water to pass through, but are impermeable to some substances dissolved in water. Then, Pfeffer, by allowing the precipitation to take place in the walls of vessels of earthenware, secured for the membrane sufficient support so that measurements could be made of the force with which water passes into solutions of various kinds in cups clothed by semipermeable membranes and immersed in water. The resulting pressure is known as "osmotic pressure," and is nearly proportional to the concentration of, i. e., the number of molecules in, a given solution. Pfeffer also pointed out that the walls of cells are semipermeable, thus explaining why vegetable cells burst when placed in water or in solutions of less concentration than the cell contents. Van't Hoff then showed that the osmotic pressure of a substance in solution equals the pressure when the same amount is volatilized and confined to the same volume as the solution. Furthermore, that equal volumes of all solutions at the same temperature and the same osmotic pressure contain the same number of molecules. To this last law a number of exceptions were soon met, especially in the case of solutions of acids, bases and salts, the pressure being greater, the boiling point higher, and the freezing point lower than warranted by the number of molecules present in the solutions. Now Arrhenius showed that the solutions which conduct electricity are the same as those that form exceptions to Van't Hoff's law, and so Arrhenius concluded that in electrolytic solutions the substances dissolved are split up into simple substances or parts, each of which acts as a molecule, making the osmotic pressure greater than indicated by the formula of the original substance.

This is the theory of electrolytic dissociation; the dissociation results in a splitting of the substances dissolved into particles or elements, called ions, charged either with positive or negative electricity. The greater the dilution up to certain limits, the greater the dissociation, and the greater the electric conductivity. Ordinarily, dissociation is complete when the weight of one molecule of an inorganic salt expressed in grams is dissolved in 1000 liters of water (gram-molecular solution). In sufficiently dilute electrolytic solutions there are ions charged with positive electricity—*cathions*—and ions charged with positive electricity—*anions*. Thus, sodium chlorid is split into Na -ions an Cl -ions, also written Na+ and Cl—. Hence, aqueous solutions of electrolytes acquire special properties due to the character of the ions which they contain, and it is the study of ions in relation to experimental morphology and to physiology that has resulted in a number of exceedingly important discoveries during the last years, to which reference has already been made in these columns.

Broncho-typhoid Fever.—Albarel describes, in the *Montpellier Med.* of April 14, a small epidemic of typhoid fever in which the lesions were exclusively limited to the bronchi and the disease was diagnosed acute tuberculosis. The patients were children, and recovered in the usual period for typhoid fever.

THE KANSAS LAW AND MEDICAL PRETENDERS.

The new Kansas medical registration law is, it is said, bringing to light a vast amount of disreputable qualifications, including diplomas from "fake" colleges, from some that never existed and from others with no instructors, whose sole function is to supply a sheepskin at such price as can be obtained, after the fashion of Armstrong, etc. One so-called school of practice, it is said, demanded that members of its state society should be given licenses on presentation of the certificates issued by the society to the members. Failing in this it demanded representation on the registration board, and threatened legal proceedings when this was refused by the governor. Thus far, however, their suit has not been instituted. Kansas has been so long a free ground for all sorts of irregular practitioners and quacks of every kind that it is very much as might have been expected; the new law is bringing a surplus of them to light. It is unfortunate also that it has a time clause which permits so many of them to continue to practice upon the ignorance and credulity of the public.

THE BRITISH MEDICAL ASSOCIATION.

The British Medical Association meets next week in Cheltenham. The Council in its report calls attention to the fact that it is sixty-three years since the Association met there before, and also to the coincidence that the previous meeting was held in the same year that Queen Victoria ascended the throne, and that this meeting is held in the year of the accession of her successor. The membership of the Association has increased only 20 during the year. The number of members last year was 18,382. During the year 1010 new members have been elected, 238 have died, and 752 have either resigned or been taken off the rolls for arrears, leaving the present membership 18,402. At the coming meeting the Association will consider the report of the committee on re-orgaization. The report, a preliminary outline of which was published some time ago, will recommend some most radical changes. These, if adopted, will add greatly to the expenses of the Association, and will necessarily increase the annual dues of the members. For this reason there will probably be so much opposition developed that the report will not be adopted. The profits made by the *Journal* during the past year are nearly $20,000, but even this, we understand, would not meet the added expense of the new plan as recommended by the committee.

DOGS IN WAR.

According to the New York *Evening Post*, the question of the use of dogs to carry water, etc., to the wounded in the war is now one of the problems before the British army medical authorities. The trouble seems to be how to secure enough dogs of approved qualities. The St. Bernard breed is naturally suggested, but the size and expense and relative rarity of these dogs are against them. Moreover, to be useful at the proper time a certain sort of dog courage is essential, and it is feared that many otherwise useful animals would prove gun-shy amid the racket on the battlefield. It is said that, in the German military service, dogs have been trained to act discriminatingly to a certain extent, to recognize friendly uniforms and avoid others, and even to act as combatants as it were. This, if true, is a complication that might seriously interfere with the usefulness of the animals as succor-bearers, and might even be worthy of consideration by the Hague tribunal or some other equally competent authority. If the dogs of war are literally to be let loose it would be in every respect better that they be utilized exclusively according to the British proposition. There is a possibility in it of real usefulness that would be seriously affected if these animals were trained for other warlike purposes.

A STATUTORY INCONSISTENCY.

Connecticut has passed a law regulating the practice of osteopathy, which goes into effect August 1. It contains a provision that the Board of Registration "may refuse to grant a license to any person addicted to any vice to such a degree as to render him unfit to practice osteopathy." This raises an interesting question: What special form or degree of vice will unfit a person from practicing osteopathy? It remotely suggests the proposition that has, we believe, been made, namely, that a certain particularly immoral business should be licensed under certain restrictions, one of which was that the licensee should be a person of good moral character and reputation. This is, of course, from the point of view of an educated physician; but that it also seems somewhat incongruous even to the lay mind, the following comments from the Hartford *Post* are evidence. That paper says: "What is the standard of vice that unfits a person to practice this brand of healing? To how great an extent must a person be addicted to the vice of lying, or to the vice of drunkenness, or to the vice of immorality before he is unfit to cure according to the osteopathic code?" For ourselves, we give it up—the conundrum is too much for us. The provision of the bill is, as the *Post* says: a statutory inconsistency, a legislative Hibernicism, like the act as a whole an evidence of the benighted condition of the legislators.

SCHOOL FOR HEALTH OFFICERS.

A new departure in educational lines recently occurred in Burlington, Vt. This was the gathering together of those interested in sanitary science in that state into what is called a "School for Health Officers." This school was provided for in a law recently passed in that state and is held under the auspices of the State Board of Health. Every health officer in the state is expected to attend this school, he being paid per diem and mileage. Others interested in sanitary matters were invited to this first meeting, although only the health officers received any remuneration. Topics of interest to health officers were the main subjects considered, and these covered a variety of questions. From reports of this meeting, one is impressed with the fact that it has proved to be one of practical value, the papers and discussions being such as would help to give the health officers in attendance a thorough knowledge of the work they are supposed to look after and undertake. Health officers nowadays, if they are fit for the position they occupy, must have a broad comprehension of their duties and be thoroughly versed in all that pertains to the prevention of disease. They need something more than ordinary medical training. Perfect sanitation consists of good drainage, proper disposal of sewage, correct plumbing, perfect ventilation, wholesome water, pure milk, and much more that is outside of what the general practitioner is supposed to know. Until the time comes, if it ever should come, that men should be educated for this particular calling, it would seem that such a school as the one held in Vermont will soon become almost a necessity. Certainly, it is something that is worthy of imitation and it is hoped that other states will follow the excellent example.

BLUE URINE.

The urine may undergo various changes in color from concentration as in the presence of fever; from the ingestion of certain articles, as rhubarb, senna, santonin, carbolic acid, methylene-blue; from the existence of certain morbid processes, as jaundice, cholera, typhus fever, pernicious anemia, melanotic sarcoma; from the presence of blood, pus, etc. The urine has been observed to be blue in those taking methylene-blue, which has been employed in the treatment of malarial fever, gonorrhea, diabetes and other affections, and also from the formation of indigo in those in whom indican is present as a result of putrefactive processes taking place in the intestines. A unique instance of the latter variety is recorded by Mr. John Good,[1] occurring in an unmarried man, 43 years old, who had been drinking excessively, had vomited and complained of feeling sickly, with loss of appetite, pain in the loins over the kidneys and discolored urine. The conjunctivæ were yellowish and the bowels were "out of order." The urine on examination was found to be of a peacock-blue color and clear, with a specific gravity of 1010, and an acid reaction. It was free from albumin and sugar, but acquired a rose tint when boiled with dilute hydrochloric acid. On one occasion the urine passed had a sage-green color. Under treatment with calomel, salines and salicylates the peculiar hue of the urine disappeared. The patient was sure that he had taken nothing that could have brought about the strange condition of the urine, in explanation of which it is suggested that it was due to the formation of indigo through oxidation of the indican that results from the putrefactive activity of the bacillus coli upon the products of tryptic digestion.

ATROPIN IN ILEUS.

Cases of ileus are frequently reported in which relief was obtained by enemata of water or of air, by the external application of poultices, or by the administration of drugs. Among the latter atropin is credited with many cures. Attention is again called to this drug by Rumpel,[2] who, at the meeting of the Medical Society of Hamburg, reported two cases in which the subcutaneous injection of atropin had been promptly followed by relief of symptoms and by recovery. In the first case, a woman of 64, there were severe abdominal pains, greatly distended abdomen, no visible peristalsis, no escape of feces or gas per rectum even with copious enemata, fecal vomiting, anuria and collapse. There was entire relief from atropin. The second case was somewhat similar, the results from atropin being equally prompt. The question arises, however, as to the nature of the obstruction: Was it mechanical or dynamic? The discharge of hard scybalous masses in the first instance leads Rumpel himself to suggest the probability of coprostasis and to feel that the good results came from the paralyzing action of the atropin on the nerve endings in the unstriped muscular fibers of the intestine, with consequent relaxation of spasm and alteration of meteoristic pressure. Yet he believes that benefit may be derived from atropin even in some cases of mechanical ileus and advocates a short trial of this drug before resorting to operation. Where there is probability that the obstruction is non-mechanical, atropin should be tried. But a long delay in mechanical ileus, when there is competent surgical aid at hand, is dangerous. As Kümmell said in the discussion of Rumpel's paper, atropin and opium are of service in relieving non-mechanical obstruction by relieving spasm; but the cases thus far published as cures of ileus by atropin seemed to him to prove that a genuine mechanical ileus is not influenced by atropin.

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[1] Lancet, June 1, 1901, p. 1535.
[2] Deut. Med. Wochenschrift, Vereins-Beilage, July 4, 1901.

OVERSUPPLY OF MEDICAL GRADUATES.

There are probably between 115,000 and 125,000 medical practitioners in the United States, or one to about every 600 of the population. Every year about 1600 of them, more or less, may be expected to die. The loss by emigration is practically nothing. The territory is rapidly being filled up and some of the newer states have already a larger proportion of physicians than some of the older ones. In 1890 we were sixty-five millions, in 1900 we are seventy-five, an average net annual increase of 1,000,000, which at the ratio of one physician to 600 people (hardly a living ratio for the doctor) would make places for nearly 1700 additional physicians annually. This, therefore, with the 1600 or so vacancies by death would make room for nearly 3300 new doctors each year, provided the same annual increase in population continues, which is perhaps dubious. Our 160 medical colleges, however, turn out annually a crop of nearly 6000 graduates, or over 2000 more than can thus be provided for. These figures, it should be remembered, do not include a vast number of off-color practitioners, who nevertheless have their share of public patronage and thus serve to curtail the means of support of the recognized physicians, nor the accessions from outside the country by immigration. These facts are reviewed in a recent issue of the *Chicago Tribune* with comments such as would naturally be made upon such a showing. It is well for us to occasionally refresh our memory with these figures, bearing as they do on some questions of really vital interest to the profession. It is certain that the multiplication of doctor-factories has gone far enough in this country, though as yet it does not seem to have been checked. It is not a dignified comparison, that of the medical graduates to the output of a machine shop; but the same principles of political economy apply in a measure to both. Overproduction in either has its bad effects, and we have not the resource of a foreign market enjoyed by the ordinary manufacturers. The same evils of excess of doctors are complained of abroad, though infinitely less evident than here, and we will apparently soon have little prospect of a satisfactory future for the American medical graduate either here or elsewhere.

Medical News.

CONNECTICUT.

Dr. G. D. Higgins, West Hartford, has been appointed hospital steward and house physician of the state prison.

The State Board of Medical Examiners, at its recent session in New Haven, passed seven out of ten applicants for practice of medicine in the state.

Dr. Charles W. Page, Middletown, who has resigned the superintendency of the Connecticut Hospital for the insane, will leave the institution August 1, and will, it is believed, be succeeded by Dr. Henry S. Noble.

Tablets are to be used by the physicians for the poor of New Haven. The superintendent of the department of charities and corrections has decided to economize by not allowing the town physicians to give prescriptions. In lieu of this they are expected to carry medicine in tablet form, which they will dispense as required.

ILLINOIS.

Dr. A. J. Lennon has been appointed interne at St. Joseph's Hospital, Joliet.

Dr. Frederick A. McGrew, Davis, sails for Europe, July 7, on the *Graf Waldersee*.

Non-Medical Management of Hospital.—The affairs of Sherman Hospital, Elgin, are said to be much disturbed by the objection of the medical staff to the conduct of the hospital by the Elgin Woman's Club. The objecting physicians have pledged, thus far, $7000 toward a new hospital, to be under the charge of the Sisters of St. Joseph.

Per Capita Expense at State Institutions.—The quarterly bulletin of the State Board of Charities shows that net average expense per capita of the inmates in state institutions was $38.78, and the gross average cost, $43.91 for the quarter. The greatest expense was at the Hospital for the Criminal Insane, Chester, $54.05, and the minimum at the Illinois Southern Hospital for the Insane, Anna, $23.74.

Chicago.

Dr. Carl Wagner is sojourning for the summer at Bonn on the Rhine, Germany.

Dr. Ralph S. Porter, who first saw service as lieutenant and assistant surgeon, assigned to the Second Illinois Infantry, U. S. V., and who after his muster-out served acceptably in the Philippines, has been appointed major and surgeon of volunteers.

Volunteer Medical Service for Poor.—More than fifty physicians and nurses have volunteered for medical service in the crowded tenement districts during the summer months, in response to the appeal of Dr. John R. Neely, of the health department.

The hypnotist, who applied to the mayor for a permit to bury a young man alive while in a hypnotic state, has been summoned to appear before the State Board of Health on the charge of falsely representing himself to be a physician. His name does not appear on the list of registered physicians.

Mortality of Chicago and New York Compared.—During the week ended July 6, the death-rate in Greater New York was 40.82 per 1000, and in the Borough of Manhattan (old New York) it was 42.14. For the same week in Chicago the death-rate was 13.59 per 1000, or 66 per cent. less than that of Greater New York and more than 67 per cent. less than that of old New York. In the eastern city there were 989 deaths from sunstroke direct during the week; in Chicago there were but 12 deaths from sunstroke direct, while the general death-rate was increased only from 12.54 to 13.59 per 1000.

Low Mortality.—July promises to be unprecedented as regards low mortality. For the first twenty days of the month the total deaths from all causes numbered only 1273—an average of 63.6 per day, or a monthly aggregate of 1971, as against a monthly average of 2435 July deaths during the previous decade, 1891-1900. There were 27 fewer deaths last week than during the week previous, and 33 fewer than during the corresponding week of last year. One of the principal factors in this low July mortality rate is the fewer deaths among infants and young children, from the acute intestinal diseases, diphtheria, convulsions, meningitis, marasmus and other diseases of childhood influenced by hot weather. The deaths under five years of age last week were 149, as against 189 last year. A notable feature of last week's records is the great difference in the number of deaths of males and females; 254 deaths of males were reported and 173 females—an excess of nearly 50 per cent. of males. Greater exposure to the heat and irregular habits of life among the sterner sex are the probable causes of this disparity. This is borne out by the statistics of deaths from sunstroke; of the 28 deaths from this cause during the month all the adults were males.

IOWA.

A hospital has been established at Fort Madison by the Sisters of Mercy.

Dr. David W. Smouse, Des Moines, is attending the British Congress of Tuberculosis.

The Iowa Sanatorium and Benevolent Association has been incorporated at Des Moines, with Dr. John H. Kellogg as the medical representative of the incorporators.

Dr. Hoffman, pathologist of the State Hospital for the Insane, Mount Pleasant, has resigned to accept a salaried position on the faculty of Drake University, Des Moines.

Davenport has been fearing an epidemic of smallpox since the public funeral of a man who died from the disease. A private funeral was permitted, but without the sanction of the health authorities public services were held.

MARYLAND.

Maryland Pharmaceutical Association.—The annual meeting of this Association was held at Ocean City last week. H. P. Hynson, of the committee on adulteration, reported that he had found wood alcohol in the products of but one concern, although several had been examined. One lot of essence of ginger contained but 33 per cent. of ethyl alcohol when it should have contained at least 95 per cent. No wood alcohol was found in tincture of iron, but several specimens contained but 50 per cent. of grain alcohol; the pharmacopeia requiring 75 per cent. Of six lots of tincture of iodin, one sample contained but 5 per cent. of ethyl alcohol; two were made with wood alcohol, and all but three were greatly deficient in iodin. Seidlitz powders exhibited much adulteration.

Dr. Parnell F. Sappington gave a lawn fête at his country place, Wrenwood, near Govanstown, on the evening of July 19. He is president of the North-Eastern Dispensary of Baltimore, and the object was to raise funds to procure surgical instruments for that institution. The Dispensary was founded in 1853 and it is proposed shortly to pull it down and erect a larger and more modern building. A fresh supply of spring water, more than adequate for its needs, has recently been obtained. Dr. W. J. Todd read a history of the physicians who lived at Mt. Washington, Baltimore County, when it was known as Washingtonville, and the doctors' fees were twelve and one-half cents a month for each member of the family, sick or well, while babies were exempt from any tax until they were 30 days old. The earliest physicians were Dr. Septimus Dorsey and Mr. Hollingsworth. The hospital is beautifully situated at an elevation of 500 feet above sea-level.

Baltimore.

The Baltimore County Medical Association held its July meeting on the 18th, at Endowood Hospital for Consumptives, about 40 members being present. The society was the guest of the Hospital Board and a handsome luncheon was served. The large mansion and 75 acres of forest land surrounding were inspected. Since its opening in 1896, 154 cases have been treated, of whom 42 have been cured or improved. At present there are 20 inmates. A cottage is in course of erection. The treatment consists of concentrated diet of highly nutritious foods, regulated bathing, regular hours and few drugs. Creosote has given good results.

At the University of Maryland, Dr. José L. Hirsh has been made associate professor of pathology and bacteriology and visiting pathologist to the University Hospital; Dr. D. M. R. Culbreth, professor of *materia medica* and pharmacognosy; Dr. R. Tunstall Taylor, associate professor of orthopedic surgery; Dr. John G. Jay, associate professor of clinical surgery; Dr. H. H. Arthur, associate professor of diseases of women; Dr. S. B. Bond, associate professor of genito-urinary diseases; Dr. Harry Adler, associate professor of diseases of the stomach; Dr. Hughlett Hardcastle, lecturer on diseases of the nose and throat; Dr. Geo. A. Fleming, demonstrator of ophthalmology; Dr. E. V. Milholland, demonstrator of diseases of the throat and nose; Dr. H. C. Hyde, demonstrator of pathology and bacteriology.

Personals.—Dr. J. Edwin Hengst and Harry Boyd have gone to the Pan-American Exposition. Dr. J. Whitbridge Williams is at Watch Hill, Rhode Island. Dr. C. Urban Smith is at Atlantic City. Dr. S. B. Wrightson has gone to the Pan-American Exposition and Niagara Falls. Dr. J. H. Hartman left on the 23d for a trip to Rhode Island and Maine. Dr. John C. Hemmeter is at Cape May. Drs. J. Frank Crouch and J. J. Carroll sailed on the 11th inst. for Germany. Dr. Harry M. Thomas is at Blue Ridge Summit, Pa. Dr. Rosell Berryman, of this city, while on a visit to a friend in Washington, was seized with appendicitis; he was removed to the Emergency Hospital and operated on the 14th by Dr. Vaughn. Dr. Sidney Cone is in the mountains of western North Carolina. Dr. Wm. T. Howard is at Bedford Springs, Pa. Dr. Howard A. Kelly has closed his sanitarium for the summer and will make a canoe trip on the Susquehanna of 101 miles, accompanied by Drs. F. P. Bull, Justus Barth and others; later he will go to Northfield, Mass., to attend a bible conference; he will spend September at his camp in Canada.

MASSACHUSETTS.

A medical house is being built in connection with the Epworth League Settlement in the North End, Boston.

Dr. C. J. Leary, Waltham, has entered on his term as assistant surgeon at St. Vincent's Hospital, Worcester.

Dr. John F. McHugh has been made resident physician of Lowell General Hospital, vice Dr. F. Herbert Coffin, term expired.

The Isolation Hospital at North Brookfield, which was ready to receive patients, was burned July 3. The loss was $1200 without any insurance.

MICHIGAN.

Smallpox has appeared at the Michigan Asylum for the Insane, Kalamazoo. On July 19 there were twenty-nine cases of the disease among the attendants and patients.

Grand Rapids Medical College.—The litigation over the ownership of the stock of this college was temporarily concluded July 15 by Judge Wolcott, who held that the contract contemplated that the stock should be paid in money and that each of the fourteen physicians is entitled to but ten shares and that they can secure control of the remaining thirty, which they bargained for, by paying in $75 within thirty days. The college is to bear the expense of the litigation.

Health of Michigan.—For June, 1901, compared with the average for that month for the last ten years, pneumonia, scarlet fever and smallpox were more than usually prevalent; and consumption, inflammation of kidney, intermitten fever, measles, erysipelas, inflammation of bowels, remittent fever, cholera morbus, dysentery and cholera infantum were less than usually prevalent. Cerebrospinal meningitis was reported during June, at 6 places; whooping cough at 30 places; diphtheria at 48 places; typhoid fever at 52 places; scarlet fever at 117 places; smallpox at 118 places, and consumption at 216 places. Reports from all sources show cerebrospinal meningitis reported at 4 places less; whooping cough at 5 places less; diphtheria at 13 places less; typhoid fever at 18 places less; measles 4 places less; scarlet fever at 40 places less; smallpox at 35 places less; and consumption at 15 places less, in June than in May, 1901.

MINNESOTA.

Dr. Charles L. Greene, St. Paul, is attending the British Congress of Tuberculosis.

Dr. Henry S. Nelson has succeeded Dr. William J. Byrnes as city physician of Minneapolis.

Dr. William E. Todd, Albert Lea, has been appointed physician of Freeborn county at a salary of $600 a year.

Dr. William F. Milligan, Wabasha, sailed for Southampton July 17, on the *St. Louis*. He expects to spend three months abroad.

Dr. Charles F. Warner, Mankato, accused of failing to report a case of contagious disease to the local health officer, has been acquitted.

Dr. Oscar C. Heyerdale, Rochester, has returned from a trip to Norway and Sweden, where he took two insane patients ordered to be deported to their native towns.

Smallpox.—The report of the State Board of Health for the fortnight ended July 1 shows 527 new cases of smallpox, 63 less than in the preceding two weeks. Of these Duluth has 53 new cases, St. Cloud, 29, and Grand Marais, 26.

A fresh air hospital is to be established on Harriet Island, St. Paul, equipped with all essentials for the care of sick children. The hospital is to be under the immediate control of the health commissioner, Dr. Justus Ohage, and will be open until the end of September.

MISSOURI.

Dr. English J. Warth has been appointed assistant physician at State Lunatic Asylum, No. 3, Nevada, vice Dr. Rufus Gillaspy, deceased.

Dr. Edwin E. Hunter, St. Joseph, formerly city physician, is now surgeon of the *Montreal*, a steamer plying between New Orleans and Cape Colony, South Africa.

Dr. M. Hayward Post, St. Louis, has been appointed by the governor a member of the Board of Managers of the Missouri School for the Blind, vice Dr. J. Harvey Moore, resigned.

NEBRASKA.

Dr. Charles C. Allison, Omaha, left last week for Europe, and will return in September.

Nebraska Physicians.—Labor Commissioner Watson has completed a compilation of statistics regarding Nebraska physicians. On July 2 there were 955 regulars practicing in the state, 119 homeopaths and 100 eclectics. Classed among physicians in these statistics were 17 osteopaths.

Dr. Mabel Dunn, Syracuse, a graduate of the Northwestern University Woman's Medical School in 1876, has been appointed assistant physician to the Hospital for the Insane, Lincoln. She succeeds Dr. Minerva Newbecker. Dr. Dunn was formerly connected with the Illinois Eastern Hospital for the Insane, Kankakee.

NEW JERSEY.

Dr. James W. Smith has resigned as assistant health officer of Paterson and physician-in-charge of the Isolation Hospital. Dr. Frank E. Agnew succeeds him in the latter position at a salary of $1,000 per annum.

Testimonial to Dr. Wienges.—The Medical Board of Christ Hospital, Jersey City, has passed resolutions in which it records with sincere sorrow the death of Conrad Wienges, M. D., in whose death it mourns a citizen of high character, one long and honorably identified with the hospital, in the records of which he will always live as a faithful, intelligent and esteemed member of his profession, and it tenders heartfelt sympathy to his bereaved family, and trusts that the memory of his good work may soften their great sorrow.

Mercer Hospital, Trenton.—The board of managers of the hospital has appointed the following staff: Consulting surgeons, Drs. Samuel W. Latta and Thomas H. Mackenzie; consulting physicians, Drs. William Elmer and Cornelius Shepherd; gynecologist, Dr. Joseph B. Shaw; pathologist, Dr. Irenaeus M. Shepherd; attending surgeons, Drs. John Bruyere, Nelson B. Oliphant, John S. Jamison and William McD. Struble; attending physicians, Drs. Irenaeus M. Shepherd, William A. Clark, Charles J. Craythorne and Charles F. Adams; medical director, Dr. William Elmer; resident physician, Dr. Frank Harris, and registrar, Dr. George H. Parker.

NORTH DAKOTA.

The State Medical Board, at its meeting in Fargo, July 11, admitted seven out of nine applicants for license to practice medicine in the state.

Dr. Frederick J. Duggan, Grand Forks, has been appointed superintendent of the Grand Forks County Board of Health, vice Dr. Samuel H. Irwin, term expired.

OHIO.

Dr. Thomas C. Hoover, Columbus, on the completion of his twenty-fifth year of service with St. Francis' Hospital, was presented with a handsome silver tea and coffee set and salver by the Sisters of the Poor.

Protestant Hospital, Columbus, at the annual meeting of its trustees, July 9, elected Dr. David N. Kinsman, chief of staff, and the following as members of the medical and surgical staff: Drs. Will J. Means, Sherman Leach, John H. J. Upham, Clovis M. Taylor, Yeatman Wardlow, William L. Dick, Thomas G. Youmans, John W. Wright, Andrew Timberman, Harvey C. Fraker, Carl L. Spohr, George M. Waters, Edwin F. Wilson, James N. Barnhill, John E. Brown, Charles S. Means, Charles A. Cooperrider and Eugene G. Carpenter.

TENNESSEE.

Dr. Louis Leroy, Nashville, State Bacteriologist, has gone to Washington, where he will study the methods pursued by the Marine-Hospital Service in the Government laboratory, with a view to their application in Tennessee.

Tribute to the Memory of Dr. William L. Nichol.—The physicians of Nashville, at a meeting recently held, prepared and passed resolutions expressing their sorrow at the death of Dr. William L. Nichol, and their appreciation of the great good he had accomplished as a physician, a humanitarian and a citizen.

Medical Department of the University of the South.—The progress of this school has been such in the past two years that it has been found necessary to add a new wing to the main building. The amphitheater has also been enlarged to accommodate 250 students. A new chemical laboratory and lecture room have been added and a new pharmaceutical laboratory fitted up. The equipment of the pathologic and bacteriologic laboratories is being improved.

TEXAS.

Drs. E. D. Capps, Fort Worth, and R. F. Miller, Sherman, have gone to New York and will sail for Europe for the purpose of studying in the hospitals for several months.

Dr. J. E. Gardiner has been elected professor of anatomy, and Dr. Roy W. Dunlap, demonstrator of anatomy in the medical department of the Fort Worth University.

New Medical Law for Texas.—The new medical law passed by the last legislature went into effect on July 9 and Governor Sayers appointed the three boards as required. While the new law is not all that was desired, it is a great improvement over the old method under which the diploma and certificate mills flourished.

The Board of Medical Examiners for the State of Texas has been appointed by the governor. The representatives of the regular school are Drs. Joseph W. Scott, Houston; John H. Evans, Palestine; Don. J. Jenkins, Daingerfield; J. T. Wilson, Sherman; Matthew M. Smith, Austin; John C. Jones, Gonzales; Joseph H. Reuss, Cuero; Frank Paschal, San Antonio and Sam R. Burroughs, Buffalo. The board met for organization July 23 at Austin.

UTAH.

Dr. W. A. Wright has been appointed interne at St. Mark's Hospital, Salt Lake City.

Dr. Theodore B. Beatty, Salt Lake City, started July 3 for a two-months' trip to Japan.

Eight New Physicians.—As a result of the examination for license to practice, which was concluded July 3, eight applicants were granted permission to practice in the state.

The State Board of Medical Examiners has been reorganized by the election of Dr. Elias S. Wright, Salt Lake City, president, and Dr. Robert W. Fisher, Salt Lake City, secretary.

VERMONT.

Dr. H. Edwin Lewis, Burlington, is in attendance on the British Congress of Tuberculosis in London.

Dr. Fred K. Jackson, Barre, has been appointed instructor in physiology in the medical department of the State University.

The University of Vermont Medical Department, Burlington, held its annual commencement exercises, June 27, graduating a class of 23. The doctorate address was delivered by Dr. John Ordonoux, emeritus professor of medical jurisprudence.

Dr. Ashbel P. Grinnell, a practitioner of Burlington, who was arrested in New York in March last, on the complaint of Edward Weston, of the Weston Electrical Instrument Company, has entered suit for $50,000 damages in the United States Court against Mr. Weston, who admitted that the case was one of mistaken identity.

WISCONSIN.

The State Medical Board has ordered the arrest of a magnetic healer of Ripon, on the charge of unlawful practice of medicine.

Dr. Hiram P. Melville, Milwaukee, has been elected surgeon of the Wisconsin Veterans' Home, Waupaca, vice Dr. George B. Noyes, deceased.

Drs. Edwin J. and John F. Farr, Eau Claire, have been appointed by the surgeon-general, examining surgeons of recruits for the National Guard of the State.

GENERAL.

Plague in New York.—A case of bubonic plague has been discovered on the steamer *Hohenfels* in New York.

Governor-General Wood Convalescent.—Governor-General Wood has almost recovered from a severe attack of typhoid fever. He purposes starting for a short Atlantic cruise on the 29th.

Yellow Fever in Cuba.—Latest reports indicate that yellow fever is developing in certain parts of Cuba. Surgeon Glennan, of the Marine-Hospital Service, reports that there are two cases of yellow fever at Cienfuegos and one suspicious case at Santiago. It is also reported that there are five cases at Santiago de Las Vegas, a town of 6000, 23 miles from Havana. Spaniards are the sufferers in each instance. The cases at the latter city are not verified at this time.

CANADA.

Dr. A. A. Biron, Manchester, N. H., is spending a holiday in Montreal.

Dr. E. B. Prettyman, Baltimore, is at the Place Viger, Montreal.

Dr. Hunter Robb, Cleveland, Ohio, is spending a four weeks' holiday at Murray Bay, Quebec.

The Western Hospital, Montreal, has elected Drs. W. E. Deeks, W. G. Reilly and R. H. Craig to positions on the medical staff.

Winnipeg General Hospital, during the week ending July 13, treated 192 patients, 106 men, 63 women and 23 children; 36 out-patients were also treated.

A new isolation hospital for smallpox patients is about completed in Toronto and the work of removal of patients commenced. There are now about six cases of smallpox in that city.

The city water of Toronto was never in a purer condition than at present. The city bacteriologist states that in the spring there are as many as 20,000 colonies of bacteria in each cubic centimeter of water, but at the present time there are only 150.

Toronto sewage disposal has again become a live question. The city engineer has recommended that a trunk sewer be constructed and the sewage carried into Lake Ontario at least three miles distant from the Eastern city limits. The whole scheme of sewage disposal is to cost $1,750,000.

The Sick Children's Hospital, Toronto, has appointed the following resident staff for the coming year: Drs. Allen B. Rutherford, John D. Chisholm, W. B. Lowry and Margaret McCallum, the latter being one of the first women to be appointed on any hospital staff in Canada.

A dangerous cattle affection, splenic disease, has broken out in Stormount County, some forty miles from the city of Ottawa. A large number of cattle have been lost within the last couple of weeks. The disease is spreading to horses. Healthy animals take sick and die within twenty-four hours.

The Montreal Health Department had a busy month in June. During the month there were 165 new cases of infectious diseases, of which 44 were made known only at the time of death. Typhoid fever was the most prevalent, with 80 cases, of which 14 proved fatal. Measles came next in order, with 12 deaths in 40 cases reported; scarlatina with 8 deaths in 39 cases, and diphtheria, 5 deaths among 18 cases.

The Medical Society of New Brunswick held its twenty-first annual meeting at Monckton on the 16th and 17th of July, with Dr. S. C. Murray, the vice-president, in the chair. Among others who contributed papers were Drs. J. H. Ryan, of Sussex, A. J. McCully, of Monckton, G. A. B. Addy, of St. John, J. C. Webster of Chicago, J. R. MacIntosh and W. L. Ellis of St. John. The following officers were elected: president, Dr. S. C. Murray, Albert; vice-president, Dr. G. A. B. Addy, St. John; corresponding secretary, Dr. J. O. Calkins, Sackville; recording secretary, Dr. W. L. Ellis, St. John. St. John was selected as the next place of meeting.

The Medical Association of the District of St. Francis was held in Sherbrooke, recently. Dr. Brown, Richmond, Quebec, presided and there was a good attendance of members. Dr. Russell Thomas, Lennoxville, was appointed to represent the Association at the coming meeting of the Canadian Medical Association in Winnipeg; and the delegate was authorized to bring before the Association the scheme of the medical defense union which was started by the St. Francis Association, and to offer to the Canadian Association the scheme which is already in working order, so that it may be put into operation at once instead of having to wait several years as they would have to do if the matter was left to a committee scattered all over the Dominion. A resolution favoring Dr. Roddick's Registration Bill was passed unanimously by the Association.

Canadian Medical Association.—The coming meeting of the Association at Winnipeg, the last four days in August, promises to be one of the most successful yet held. Many Eastern practitioners have already signified to the secretary their intention to be present and letters of inquiry are coming in daily. The profession in the prairie city are laying themselves out to entertain their confrères from the East right royally. Amongst other functions there is going to be an excursion to Old Fort Garry and a specially arranged excursion through the great wheat belt of Manitoba. After the meeting many of the members will take advantage of the cheap rates offered by the Canadian Pacific Railway to Banff and the Pacific Coast. Among others who are to take part in this meeting will be Dr. J. R. Jones, of Winnipeg, who is to deliver the address in medicine; Dr. O. M. Jones, Victoria, B.C., who will deliver the address in surgery, and Dr. Thomas S. Cullen, of Baltimore, who will deliver the address in gynecology. Visiting members may well look forward to a rich treat both socially and scientifically in Winnipeg.

FOREIGN.

Italian Congress of Pediatrics.—The fourth congress of pediatrics will convene at Florence, October 15 to 20.

The Medico-Psychological Association of great Britain and Ireland will be held in Cork, Ireland, on July 25 and 26.

Bubonic Plague at Marseilles.—The French steamer *Laos* arrived at Marseilles from Yokohama, July 7, with several cases of plague on board. Two of the crew, Arab stokers, have died, the last on July 20. The others are progressing favorably.

Virchow's Eightieth Birthday.—Professor Virchow's eightieth birthday will be celebrated in Berlin October 12, and it is expected that representatives from the scientific bodies of various countries will attend and present congratulatory addresses to the learned scientist.

Suspected Plague on British Steamer.—The steamer *Ormuz*, from Sydney to London, landed two cases, believed to be bubonic plague, at Plymouth, on July 22. One case developed after leaving Marseilles. During the passage, it was refused admittance to the harbor of Gibraltar.

The seventieth birthday of Professor His, of Munich, was celebrated July 9. The *Muenchener Med. Woch.* reviews his scientific achievements, and more than 100 publications. His great work on the anatomy of the human embryo and his studies on the nerve cells opened the way for the discoveries of Golgi, Ramon y Cajal, and others, besides his own important contributions on the subject of the nervous system. The uniform nomenclature of anatomy is to a certain extent his work.

French Appropriation for the Study of Yellow Fever.—The French government has appropriated 100,000 francs to defray the expenses of a scientific mission for the study of yellow fever in America. The *Semaine Médicale* states that the party will go to Rio Janeiro, as yellow fever is more frequent there than in Havana and the Gulf of Mexico, and better facilities are afforded for research. It is expected that the further expenses of the mission will be borne by the French Senegal colony, in West Africa, which is directly interested in the study of yellow fever.

Congress of Czech Physicians and Naturalists.—Slavic physicians and scientists gathered at Prague in May to the number of a thousand to hold the third Czech congress, the last having taken place nineteen years ago. The congress was divided into eleven sections, and more than 360 communications were presented. The Czechs have a university at Prague, whose scientific importance is thoroughly appreciated abroad. The number of students is so large that it is proposed to found a second university and medical department at Maehren. Hlava presided over the congress. The title of one of the chief addresses was the "Influence of Civilization on the Nervous System," by Thomayer; he does not consider this influence deleterious. Knighthood of the Order of Leopold was conferred by the emperor on Professors Pribram, Eiselt and Jirus, and other decorations on Janovsky, P. J. Pick, F. Friedreich and J. Rychna, on this occasion.

Miscellany.

Production of Biliary Calculi.—Italia concludes that the proliferation of attenuated non-virulent, micro-organisms in the gall-bladder causes the bile to become more acid. This in turn induces the precipitation of granules which agglomerate to form calculi, agglutinated by the mucus secreted by the walls of the gall-bladder.—*Policlinico*, viii, 4.

The Anopheles as Host of a Trematode.—The Rome correspondent of *The Lancet* states that Marbirano, while examining the stomach and salivary glands of hybernating mosquitoes, found that a large number of these insects acted as hosts of a small trematode worm of the distomida family. These were encysted, and also found free in the thorax and abdomen. "Each cyst contained only one distoma of a flat leaflike form, oval, somewhat elongated, becoming during its active progressive movements after its liberation from the cyst narrow and ribbon-like in shape." Several of the anopheles were also infected with filaria, which were found in the Malpighian tubes.

The State Reformatories in England, according to their rules just published, have three grades, the Licensed Retreats in which inebriates seek voluntary retirement, the certified Inebriate Reformatories, to which commitments may be had and the State Inebriate Reformatories for persons led by drink into crime. Where an inmate has any property available for his maintenance an order may be obtained from a county court judge for that purpose. The inmates are, too, separated into three classes each with a distinctive badge. A system of rewards and punishments promotes or degrades from one class to another. Members of the special class may become eligible for positions of trust in the reformatory or they may be lowered to the penal class. According to the multiple regulations the reformatory element is to be in the ascendant and in no case is a discharge on "leave" impossible. Still the combination of prison discipline with remedial treatment may not be altogether acceptable to the subjects, who as a whole never seem to forget their grievances.

Uniform Medical Legislation.—The preliminary report of the Committee on Organization of the American Medical Association (see The Journal of the American Medical Association, May 25, 1901), while speaking of the reorganization, mentions prominently medical education and medical legislation and reciprocity. We sincerely hope, not only that these two most important questions will receive due consideration on the part of the House of Delegates, and of the General Meeting, at Saratoga, but also that material progress will be made by advocating and endorsing such steps as may be recognized as commendable. It appears to us that a high standard of preliminary education, and a thorough medical course in a well equipped and continually inspected medical college, should be insisted upon. The example set by the New England Medical Boards, which formed a working group, should be recommended. These and similar considerations suggest themselves to the American Medical Association. Although a sub-committee on uniform medical legislation was appointed by the Conference of the Committees on National Legislation of the American Medical Association and affiliated societies, the responsibility, we think, rests upon the House of Delegates, and upon the General Meeting. Circumstances place the reorganized Association face to face with great problems. We feel assured that the American Medical Association will be equal to the task. —*Philadelphia Med. Journal*, July 13.

Staining the Tubercle Bacillus.—For the rapid detection of the bacillus tuberculosis in sputum and urine Dr. H. W. G. MacLeod has found the following method satisfactory with the Ziehl-Neelsen carbol-fuchsin stain. He employs extra thin slips of white crown glass, 76 mm. by 25 mm., and circular cover glasses (16 mm. = $\frac{5}{8}$″). On a slip cleared of all grease by means of ether and rectified spirit, three separate films are spread in the usual way, and fixed by passing the slide rapidly over the flame of a spirit lamp. By means of a small pipette filled with the stain, two or three drops of carbol-fuchsin are placed on each film. The slip is then held about 10 inches above the flame and gently moved about, the fluid being allowed to "steam" for five minutes without boiling. Fresh stain is dropped on with the pipette to prevent the films drying. The slide is then washed and decolorized in the usual way by dipping it into 25 per cent. of nitric or sulphuric acid, etc. A spot of Loeffler's methylene-blue is placed on each film, the slide is gently warmed for a few seconds, and then washed. The bacilli are usually stained perfectly. By this method. 1, three specimens can be prepared at once; 2, by applying the film to the slide and not to the cover glass all chances of breaking or dropping the latter and of losing the specimen are avoided. The circular cover glass is more easily manipulated and is less fragile than the square, and it encloses the largest space in the smallest boundary. By holding the slide in the fingers when "steaming," and not with Cornet's or other forceps, overheating is prevented. This also does away with heating the film in a capsule over a sand bath, which takes a much longer time; and if in this process a cover glass is used it is stained on both sides, and matters are complicated. Forceps holding a slide or cover glass get smeared at their points with carbol-fuchsin, and may re-stain the film after it has been decolorized by the acid. By the other method this is avoided. For saving time in clinical work and at examinations it is rapid and effective.—*British Medical Journal*, June 6.

French Congress of Otology and Laryngology.—The principal addresses at this congress which convened at Lille, May 1, were on "Sphenoidal Sinusitis" and "Nasal Hydrorrhea." The great benefit of hot air in the treatment of affections of the mucosa of the upper air passages was corroborated by Lermoyez, who related among others the case of a man who had suffered for thirty years from nasal hydrorrhea with sycosis of the upper lip, rebellious to all measures. Under treatment with hot air, a surprising improvement became evident in a few seances. Affections on a nervous foundation seem to be most susceptible to the benefits of this treatment, which probably acts by stimulating the natural forces, similarly to electricity and light in therapeutics. Sarremone described a case of facial neuralgia consecutive to nasal catarrh and subsiding as the latter was cured. Collinet reported two cases of primary chancre in the nasal fossæ. One patient, a merchant, had a habit of scratching the inside of his nose with a pencil that lay on his counter and was used by his customers, who probably wet it in their mouths. The symptoms were obstruction of the right nasal fossa with a mucopurulent discharge and a characteristic and painful adenopathy in the corresponding submaxillary region. The lesion was diagnosed by the appearance of secondary manifestations. Castex has been investigating 323 deaf mutes and concludes that this condition is the result of defective evolution or of pathologic alterations in the receiving auditory apparatus. A preceding meningitis was noted in 40, convulsions in 37, brain fever in 20, typhoid fever in 17, scrofula in 16 and traumatism in 9. Concomitant affections are frequent, especially ocular alterations; the dentition is often defective, the skeleton unsymmetrical, the skull oval and slanting. Congenital deaf and dumbness was to the acquired in the proportion of 145 to 178, and consanguinity in the parents was noted in 8.94 per cent. Tuberculosis, syphilis, lead poisoning and alcoholism in the parents are important factors. Brothers and sisters were affected in 45 out of the 323 cases. Emotions during pregnancy and abnormal deliveries also figure in the etiology. The autopsies show the predominant importance of lesions of the labyrinth, brain, and cerebellum, congenital rather than acquired. Goris described three cases of cancer in which after extirpation or resection of the larynx, he found it necessary to reopen the wound and excise a portion of the esophagus and surrounding muscles to prevent suffocation. The next congress will discuss the treatment of "Acute Suppurative Otitis" and of "Fibrous Stenoses of the Larynx."

An Encouraging Outlook.

The Nebraska State Medical Society and the Nebraska State Homeopathic Medical Society met in annual session this year at the same time and in the same city. From the minutes of the

Nebraska State Medical Society's transactions, as published in the *Western Medical Review*, we copy the following:

"*Lindell Hotel, Lincoln, Neb., May 7, 1901.*

"To the Nebraska State Medical Society: The Nebraska State Homeopathic Medical Society, in convention assembled, hereby send greeting to your honorable and scientific body. We wish you success in all your noble efforts and investigations. Our aims are mutual in the research of truth, and in the noble and benign effort to ameliorate and relieve the ills of suffering humanity. Respectfully, W. H. Hanchett, M.D., W. A. Cate, M.D., A. V. Holmes, M.D., Committee."

It was moved and seconded that the secretary acknowledge the communication from the Homeopathic Society in a courteous and ceremonious manner. Carried.

"Walsh Hall, Lincoln, Neb., May 8; 1901.

"To the Nebraska State Homeopathic Medical Society: The Nebraska State Medical Society, in convention assembled, acknowledge with thanks the very cordial greeting from your honorable and scientific body and express its best wishes for you. May the unfolding of the great science of medicine lead all honorable physicians nearer together and stimulate the growth of a more fraternal feeling. A. D. Wilkinson, Secretary."

An Eddyite Prayer Against Dyspepsia.

The following sample of "christian science" is quoted by Samuel Lloyd Luckey in the *Journal of Physical Therapeutics* from one of the Eddyite publications, "Faith Healing and Christian Science," by Miss Alice Fielding, p. 214. It is a prayer for a dyspeptic, drawn up by Mr. Hazzard, president of the New York School of Primitive and Practical Christian Sciences. The capitals and italics of the original are followed:

"Holy Reality! We BELIEVE in Thee that Thou art EVERYWHERE present. We *really* believe it. Blessed Reality, we do not pretend to believe, think we believe, believe that we believe. WE BELIEVE. Believing that Thou art everywhere present, we believe that Thou art in this patient's stomach, in every fiber, in every cell, in every atom, that Thou art the sole, only Reality of that stomach. Heavenly, Holy Reality, we *will* try not to be such hypocrites and infidels as every day of our lives to affirm our faith in Thee and then immediately begin to tell how sick we are, forgetting that Thou art everything and that Thou art not sick, and therefore that nothing in this universe was ever sick, is now sick, or can be sick. Forgive us our sins in that we have this day talked about our backaches, that we have told our neighbors that our food hurts us, that we mentioned to a visitor that there was a lump in our stomach, that we have wasted our valuable time, which should have been spent in Thy service, in worrying for fear that our stomach would grow worse, in that we have disobeyed Thy blessed law in thinking that some kind of medicine would help us. We know, Father and Mother of us all, that there is no such thing as a really diseased stomach; that the disease is the Carnal Mortal Mind given over to the World, the Flesh, and the Devil; that the mortal mind is a twist, a distortion, a false attitude, the HARMATIA of Thought. Shining and Glorious Verity, we recognize the great and splendid FACT that the moment we really believe the Truth, Disease ceases to trouble us; that the Truth is that there is no Disease in either *real* Body or Mind; that in the Mind what *seems* to be a *disease* is a False Belief, a Parasite, a hateful Excrescence, and that what happens in the Body is the shadow of the LIE in the Soul. Lord, help us to believe that ALL Evil is Utterly Unreal; that it is silly to be sick, absurd to be ailing, wicked to be wailing, atheism and denial of God to say, 'I am sick.' Help us to stoutly affirm with our hand in Your hand, with our eyes fixed on Thee, that we have no Dyspepsia, that we never had Dyspepsia, that we will never have Dyspepsia, that there is no such thing, that there never was any such thing, and that there never will be any such thing. Amen."

Married.

Frank L. Rose, M.D., Chicago, to Miss Jessie Allen, Charlotte, Mich., June 25.

Elmer Ayres Irwin, M.D., to Miss Emma Louise Jenks, both of Chicago, July 10.

E. C. Anderson, M.D., to Miss Belle Coulter Moore, both of Hopkinsville, Ky., July 15.

Griffin W. Holland, M.D., to Miss Grace Addison Wilkins, both of Eastville, Va., July 10.

Henry C. Holtzendorff, M.D., Mishawaka, Ind., to Miss Grace McDonnell, Titusville, Pa., July 9.

George J. Lochboeler, M.D., Washington, D.C., to Miss Mary Margaret Schmitt, Baltimore, June 26.

Scott Parker Child, M.D., Kansas City, to Miss Mary Townsend Hotchkiss, Buffalo, at Lewiston, N. Y., July 10.

Deaths and Obituaries.

Harvey W. Harkness, M.D., Berkshire Medical College of Massachusetts (now extinct), 1847, died at his home in San Francisco, July 10, at the age of 80. He went to California soon after his graduation, and, after practicing his profession for twenty years, retired from active practice and devoted his attention to scientific studies. He was president of the California Academy of Sciences for nine successive terms, 1887-1896, and at the time of his death was a Regent of the University of California. As a scientist, Dr. Harkness devoted his investigations chiefly to the study of the fungi of the Pacific coast and upon that subject became an authority. His collection of cryptogams, containing 10,000 specimens and one of the finest known, was presented by him several years ago to the Academy of Sciences.

Edwin S. Lemoine, M.D., University of Pennsylvania, 1848, died of Bright's disease, July 17, at his home in St. Louis, Mo., aged 74. He was secretary of the American Medical Association, 1853-55. He was a member of the St. Louis International Medical Society, the Medical Association of Missouri, the St. Louis Academy of Science, and the Missouri Historical Society. He was elected president of the Missouri Obstetrical and Gynecological Society in 1892 and again in 1893. He was on the consulting staff of the Martha Parson's Hospital for Children and was first physician to the Memorial Home at St. Louis. He graduated from Princeton University in 1845, and at the time of his death was vice-president of the Princeton Club, St. Louis.

Milton T. Carey, M.D., Medical College of Ohio, Cincinnati, 1851, died at his home in Cincinnati, July 15, after a brief illness, aged 70. He was resident physician at the old Commercial Hospital and Lunatic Asylum, and was later attending physician to the Contagious Hospital. At the beginning of the civil war he was commissioned surgeon-major of the 48th Ohio Volunteer Infantry and served throughout the entire war, and was captured at the battle of Shiloh; toward the close of the war he was placed in charge of Woodward Post Hospital, Cincinnati.

Freeman H. Chase, M.D., Medical School of Maine, Brunswick, *1866*, died from apoplexy at his home in Bangor, Me., July 11, aged 62. He enlisted, when 21, in the 12th Maine Volunteers and served for three and one half years, rising to the rank of lieutenant, and was mustered out because of impaired health, due to his imprisonment in Libby and Andersonville prisons. He was also a graduate of Bowdoin College.

William H. Gobrecht, M.D., University of Pennsylvania, *1849*, died in Washington, D.C., July 19, aged 72. During the civil war he was surgeon of the 49th Pennsylvania Infantry and served on General Hancock's staff. He had been demonstrator of anatomy in the Universities of Pennsylvania and Ohio.

Sanford S. Riddell, M.D., Tulane University, New Orleans, 1860, who had *come from* his home, Chippewa Falls, Wis., to attend the meeting of the Inter-County Medical Society, held at West Superior, dropped dead on the street at the latter place, as the result of a cerebral hemorrhage. He was 65 years of age.

Ellis P. Hamer, M.D., Jefferson Medical College, Philadelphia, 1851, died at his home in Lincoln, Neb., July 18, aged 78, after an extended illness. Since 1877 Lincoln has been his home; before that time he practiced in Fulton County, Illinois. He retired from active practice a number of years ago.

R. N. Cooley, M.D., Castleton Medical College, Castleton, Vt., (now extinct), 1859, died at his home in Hannibal, Neb., July 17, aged 70. He resided many years ago in Oswego County, N. Y., and at an early date identified himself with the New York State Medical Association.

Newton Calhoun, M.D., for fifty years a practicing physician at Warsaw, Ohio, committed suicide by taking morphin, July 13. He was 83 years of age, and had been despondent since the recent death of his wife.

Edward Hewes, M.D., physician and lawyer, died at his home in Frederick, Md., July 15, aged 44, of pulmonary tuberculosis. He was a descendant of Joseph Hewes, a signer of the Declaration of Independence.

James A. Harris, M.D., Jefferson Medical College, Philadelphia, 1884, died at Asheville, N.C., where he had gone in the hopes of being better able to combat the pulmonary tuberculosis with which he was affected.

Moses F. Bassett, M.D., died at his home in Quincy, Ill., July 11, aged 81. He practiced first in Barnstable, Mass.; he came to Quincy in 1853, and until a few years ago continued to practice there.

Leonard W. Groce, M.D., Texas Medical College, Galveston, 1868, was struck by a switch engine and killed, July 6, while crossing the track at Hempstead, Tex., where he lived.

Thomas J. Cheatham, M.D., Medical College of Virginia, Richmond, 1850, died at his home near Chesterfield Courthouse, Va., July 13, of cancer of the stomach, aged 74.

Morris Fussell, M.D., who has practiced medicine in Chester County, Pa., for over fifty years, died at his home near Chester Springs, after a long illness, aged 72.

Stephen S. Wason, M.D., who has lived and practiced medicine in Wisconsin for over fifty years, died at his home in Black River Falls, July 13, aged 73.

John L. Gilbert, M.D., Keokuk Medical College, Keokuk, Ia., 1892, died suddenly while on a visit to his parents at Grantville, Kansas, July 13.

Joseph A. Chandler, M.D., who was a veteran of the 152d Indiana Infantry, died from the heat at his home in Warsaw, Ind., July 18, aged 73.

Samuel W. McEwan, M.D., Rush Medical College, Chicago, 1881, died at his home in Alexandria, Minn., after an illness of two weeks, aged 50.

John D. Weaver, M.D., Jefferson Medical College, Philadelphia, 1883, died of heart failure at his home in Norristown, Pa., July 12, aged 44.

Stephen Vankirk, M.D., Jefferson Medical College, Philadelphia, 1901, died at Grafton, W. Va., July 14, from Bright's disease, aged 27.

Francisco Ezell, M.D., Washington University, St. Louis, Mo., 1881, died at his home in Fayette, Mo., July 10, aged 54.

William M. Vaughn, M.D., Cherokee, Texas, was burned to death in his bed by the explosion of a lamp, July 10.

John F. Trenchard, M.D., Jefferson Medical College, Philadelphia, 1847, died at Fairton, N. J., July 12, aged 81.

Nelson L. Griswold, M.D., died July 8, at his home in Utica, N. Y., after a long illness, aged 79.

George H. McMurray, M.D., Albany Medical College, 1887, died from diabetes, July 12, aged 36.

Societies.

Buffalo Academy of Medicine, Section on Pathology.—At a recent meeting of this Section Dr. George W. Wende was elected chairman, and Dr. Irving P. Lyon, secretary.

Brainard Medical Society.—At the annual meeting of this Society, held at Milwaukee, Wis., Stephen S. Stack, Milwaukee, was elected president, and William Hausman, Kewaskum, secretary and treasurer.

Buffalo Academy of Medicine.—The following officers have been elected for 1901-02; President, Dr. Charles G. Stockton; secretary, Dr. Frank W. McGuire; treasurer, Dr. Charles S. Jewett, and trustee, Dr. Matthew D. Mann.

Wayne County (Ind.) Medical Society.—This Society, at its recent meeting in Richmond, elected the following officers for the coming year: President, Dr. H. B. Boyd, Camden; vice-president, Dr. Harrison Gable, Centerville, and secretary and treasurer, Dr. Stephen C. Markley, Richmond.

Stephenson County (Ill.) Society of Physicians and Surgeons.—At the annual meeting of this Society, held at Freeport, July 11, the following officers were elected: Dr. Smith C. Thompson, Cedarville, president; Dr. John F. Fair, Freeport, vice-president, and Dr. Robert J. Burns, Freeport, secretary and treasurer.

Wood County (O.) Medical Society.—This Society was organized at Bowling Green, July 10, and the following officers were elected: Dr. Joseph C. Lincoln, Bowling Green, president; Dr. Frank D. Halleck, Bowling Green, secretary, and Dr. Byron S. Cranston, Rudolph, treasurer. Drs. C. S. St. John and W. L. Mathers, Bowling-Green, and Dr. C. M. Deibert, Milbury, were named as a censor committee.

Wyoming County (N. Y.) Medical Association.—At the annual meeting of this Association, held at Warsaw, July 10, it was voted to join the New York State Medical Association, the advantages of such a step being brought out in a general discussion. The following delegates were chosen to attend the state convention to be held in New York, October 21: Dr. Zera J. Lusk, Warsaw; Dr. George W. Blackmer, Pike; Dr. T. A. Way, Perry Center; Dr. Lyman C. Broughton, Castile; alternates, Dr. L. H. Humphrey, Silver Springs, Dr. George S. Skiff, Gainesville, Dr. Philip S. Goodwin, Perry, and Dr. Carl C. Mann, Warsaw. Officers chosen for the ensuing year were Dr. Carl C. Mann, president, Dr. Philip S. Goodwin, vice-president, and Dr. Gifford Truesdell, Warsaw, secretary and treasurer. The next meeting will be held at Silver Lake.

CINCINNATI ACADEMY OF MEDICINE.

Regular Meeting, June 24, 1901.

The President, Dr. N. P. Dandridge, in the chair.

Cutaneous Treatment by Roentgen Ray.

Dr. E. H. Shields presented a case of pigmented nevus of the foot which he was treating by means of the *x*-ray. The result so far had been only fairly satisfactory, though he thought unquestionably healing had taken place in some portions. He also reported three cases of lupus, treated by the same method, one in which the result had been decidedly encouraging; a second is negative; third, still under observation, progresses nicely toward recovery. Exposure to the ray lasted from ten to thirty minutes, average fifteen minutes, without burn in any instance. The parts exposed varied from six to twelve inches from the tube.

Dr. Merrill Ricketts said that some months ago he had reported a case of multiple sarcoma, in which skin nodules of the right side of the body were particularly prevalent and gave much pain to the patient. Under the influence of the *x*-ray the pain had entirely disappeared. and curious to state many of the nodules apparently atrophied, or dried and scaled off. The patient ultimately died of dissemination of the disease but throughout the course pain was absent while under the *x*-ray treatment.

Dr. Shields said that he had seen several cases of chronic rheumatism entirely relieved of pain by subjecting them to the rays.

Fibroid of the Uterus Complicated with Pregnancy.

Dr. A. G. Drury reported the following case: M. A., colored, aged 37, primipara; on his first visit, June 2, 1901, he had obtained this history. The woman, a servant, was pregnant. Fearing detection she had procured an abortion on May 21. After the operation she had gone home and continued her usual work. The fetus and placenta were not expelled until the 24th, three days later. She had hidden them in a barrel in the cellar, continuing her work, notwithstanding the pain and hemorrhage, and had worked until she fell in a faint from sheer exhaustion, when he had been hastily summoned. He found her almost pulseless, with short rapid respiration. Thinking death imminent, she gave the above statement when slightly revived. The fetus and placenta were found as she had stated. Examination showed a patulous os, and an offensive, bloody discharge. On the right side was a hard mass, the size of a fetal head and firmly attached to the uterus. A few hours later she had a chill during which her temperature rose to 102.8. From the second to the eighth the discharge from the uterus was continuous, and the temperature varied from 100 to 104. Pain at times was so severe as to require morphia. Quinin and strychnia were given as tonics and stimulants. The uterus was flushed out each day until the 18th. From the 12th decided improvement was noted until the 16th when she had a severe chill followed by increased pain. At times she was delirious. On this latter date there was a marked increase in the discharge, which was greenish in color. On the 17th a diminution in the size of the tumor was noted. On the 18th he had been called at noon and was informed by the nurse that she had had severe bearing-down pains and that something was protruding from the vulva. On entering the hand for vaginal examination the flow of a greenish fluid saturated the bed. The mass was readily removed and was found to be of about the size of a large orange, sacculated and with dense walls. On the 19th there was marked improvement, diminution in the pulse respiration and temperature, and in the amount and odor of the discharge. She has continued to improve up to date.

Two Weeks' Ovum.

Dr. E. G. Zinke presented a specimen of a two week's ovum aborted by a woman who was already seven weeks pregnant, the latter pregnancy going on to term. He thought that abortion took place on account of insufficient room for development.

Presentation of Specimens.

Dr. B. Merrill Ricketts presented the following: Case 1.—Wire mattress (Phelp's hernia operation). This specimen was from a dog's abdominal wall in which a mattress of silver wire had been placed fourteen days before the dog's life had been taken. The tissues had grown through the meshes of the mattress, forming an impervious wall. Silk, silkworm gut, kangaroo tendon, catgut and wire were used for sutures and could be seen in their respective places, demonstrating the comparative life and usefulness of these materials for sutures. The catgut evidently became useless two or three days after insertion while the kangaroo tendon lasted much longer. Case 2.—Gall-stone with abscess formation, simulating appendicitis. Patient, a woman, aged 54 years, had suffered from gall-stones for many years, though she had never had clay-colored stools, and at this time there was no icterus. Patient was very frail and was much debilitated; did not weigh over 100 pounds. The entire right abdominal wall was hard and boggy, indicating underlying pus. Chloroform was administered and the incision made a little above the ordinary appendicitis incision, over the point of greatest bogginess, the preponderance of evidence being in favor of an appendicitis. A half pint of thick, non-offensive pus was evacuated immediately under the incision, exposing a cavity below the gall bladder and extending downward. A gall-stone weighing 285 grains, which had sloughed through the gall bladder and which was surrounded by dense adhesions, was found in this cavity. The cavity was packed and drained. The intestine which had been adherent to the abdominal wall and had been cut in the primary incision was then sutured and the woman put to bed. Convalescence was very rapid and the temperature never reached 100 degrees. Case 3.—Gall-stone in a woman of 70 years of age; she weighed 225 pounds; gave a history of severe pain in the region of the gall bladder for a number of years and at the time of examination suffered from intense icterus and clay-colored stools. A cholecystotomy was made and revealed a ball-valve stone in the common duct, which stone was divided and removed in fragments. Weight of stone was 22 grains. Uninterrupted recovery took place. Case 4.—Typhoid fever, operation, recovery. Gall-stone. Woman, aged 21, who had suffered from an attack of typhoid eighteen months previous to the onset of her present trouble. Icterus extreme, stools clay-colored, and complaint of severe pain in the region of the gall bladder. Cholecystotomy was made and the gall bladder was found to contain two ounces of a light-colored albuminous fluid. Sound revealed a stone in the common duct and some small fragments of the stone were removed by means of the curette. In the manipulation the stone disappeared, presumably into the hepatic duct and could not be located thereafter. This stone was also of the ball-valve variety. The cavity of the gall bladder was drained externally, and most of the bile was seen coming through this external opening; the stools are naturally still clay colored, but the icterus is rapidly disappearing and the patient improving greatly in general health. The interesting point in the case is the probable rôle of the preceding typhoid in the production of the stone; this probability is still further strengthened by the age, 21 years, of the patient. Case 5.—Ovarian tumor with twisted pedicle. A woman, 54 years of age, weighing in the neighborhood of 225 pounds, had been bed-fast for three days on account of excruciating pain in the lower right abdominal region. Examination revealed a large tumor apparently in connection with right ovary. Abdominal wall incised and after cutting through about four and one-half inches of fat peritoneal cavity was opened, which opening immediately gave exit to over three quarts of a dark-red fluid. A large ovarian cyst in connection with the right ovary was found with a badly twisted pedicle; this cyst contained a clear fluid and on removal proved to weigh 15 pounds. The abdominal cavity was then irrigated with hot water. The muscular layer was sutured with kangaroo tendon, and the subcutaneous tissues with silkworm gut; recovery uneventful. Case 6.—Cystic tumor, left ovary; hematoma of the right; purulent appendicitis; operation and death in 75 hours from ileus. Patient was aged 24, slight in build, not over 90 pounds, mother of one child, was suddenly attacked with very severe pain in the right side. Examination revealed an enlarged and tender ovary. On opening the abdomen, the right ovary was found to contain a hematoma and the left ovary cystic; both were removed. Examination of the appendix showed it to be enlarged and containing pus; this was also removed. The temperature never exceeded 99 and she declared she suffered no pain. No medicine of any kind was administered. She began to vomit stercoraceous matter 75 hours after operation and died at the end of 80 hours, of ileus.

Villous Polypus of the Rectum.

Dr. John H. Landis gave the following history: Age of patient, 64 years, occupation, farmer. He had an attack of grippe four years ago lasting one month and has had occasional attacks of what were diagnosed as inflamed hemorrhoids. The polypus was noticed for the first time one year ago when it was suddenly protruded during an act of defecation. It bled slightly and was replaced without special difficulty or pain. Since its first appearance it has been expelled from two to five times daily, the bowel movements during this time containing blood and mucus. It has always been replaced without much difficulty and has been more of a source of annoyance than of suffering. The most distressing symptoms due to its presence have been headache and backache. Both of these symptoms promptly disappeared after its removal. Histologically these tumors are made up of hypertrophied villi, follicles of Lieberkühn and connective tissue, and have a generous blood supply. Clinically they present the characteristics of simple tumors. Occasionally they show malignant tendencies. According to Cripps they are very rare, appear after adult life, usually in old age and frequently attain a large size. The specimen presented this evening was attached to the anterior wall of the bowel about an inch and a half above the sphincter by a short pedicle over an inch wide and one-quarter inch thick.

Branchial Fistula.

Dr. H. J. Whitacre presented a specimen of branchial fistula. The fistulous tract had extended from just above the larynx to right tonsil, and he had removed the entire tract with good result.

Addison's Disease.

Dr. G. F. Sudhoff reported this case: W. J., white, German, single, physique poor, height five and one-half feet, weight

110 pounds, of good habits, occupation porter, admitted to the German Protestant Hospital May 26, 1901. Father died at the age of 75, mother at 58, cause of death in both instances unknown. Has brothers and sisters in Germany, but he knows nothing of them. He had pleurisy four years ago and apparently made a good recovery; was in the German Protestant Hospital on Dr. Sudhoff's service from Dec. 27, 1897, to Feb. 20, 1898, with symptoms of incipient phthisis such as cough, fever, debility and the physical signs of consolidated areas at both apices. Had diphtheria two years ago and follicular tonsillitis one year ago. Present trouble began seven days previous to admittance to the hospital with headache, languor and general debility, loss of appetite; vomited two or three times. Patient appears very nervous and extremely weak; complains of severe pains in the loins especially after sitting awhile; frequently walks with hands on back to render some support; muscular debility seems general and the patient appears almost too weak to walk; has slight cough but no expectoration, and himself states that the cough is on account of the dryness of the throat. Voice feeble and speaking requires considerable of an effort. Temperature 100.8; pulse 84 and very feeble. Appetite poor, has some nausea and vomits occasionally, bowels regular, stools of rather a light color. Micturition frequent, but urine is normal in amount. Skin of face and neck brownish-yellow in color, conjunctivæ white. Heart sounds normal except that the action is very feeble. Slight dulness over both infra-clavicular regions; respiratory sounds feeble and expiration somewhat prolonged over both apices; no rales. Liver dulness normal; muscles tense over lower half of the abdomen, but there was no special point of tenderness. Extremities normal; skin on hands also darkened as though sunburned. Urine amber; reaction acid; sp. gr. 1010; no sugar, no albumin, no bile pigment. He died on May 26.

Autopsy, 14 hours after death. Lungs: small consolidations about the size of a bean at both apices, no cavities in any part of the lungs. Heart: small, paler than normal, myocardial tissue slightly softened. Abdomen: liver and pancreas normal; spleen somewhat enlarged and softened; stomach dilated and mucous membrane pale; intestines normal. Suprarenals; both enlarged, measuring three inches long, two inches wide and one and one-half inches thick, very hard and nodular (nodules about the size of a pea); on section some of these nodules seem to contain cheesy and chalky deposits surrounded by firm fibrous tissue. Microscopic examination: characteristic structure of the adrenals entirely destroyed and the entire organs consist of uniform masses of white, firm, fibrous, wavy bands enclosing lymphoid cells. Here and there masses of a caseous material resembling degenerated tubercle. The points of special interest in this case were: progressive asthenia, cardiac enfeeblement and gastric irritability; pains in the loins without apparently sufficient cause; while the bronzing of the skin to which so much importance has been attached was not well marked, the skin being about the color of one who is badly sunburnt and this latter condition did not increase any in the last two years, during which time he had been more or less under Dr. Sudhoff's observation.

Miscellaneous Cases.

Dr. J. L. Cleveland. Case 1.—Abscess of the liver. A woman, 70 years of age, with a distended and tender abdomen and a tumor evidently in connection with the liver extending downward as far as the umbilicus. Ten days after his first visit he was called suddenly and found a large puddle of pus on the floor. A sinus was found in the neighborhood of the umbilicus connecting the liver tumor, and was still discharging when he entered the room. He has every hope for her recovery. Case 2.—Splanchnoptosis; strangulated hernia with peritonitis. He was called suddenly to see this patient, 75 years of age, who had been seized with sudden pain in the abdomen and the vomiting of what was described by the family to be pus; he himself did not see any of the vomit. On examination of the abdomen, mindful of the case just reported, he thought he could outline a tumor of the liver also extending downward to the umbilicus. He did not advise operation on account of the age and weakness of the patient, who died in a few days. On autopsy there was a most pronounced enteroptosis, with also descent of other contents of abdomen. The liver was of normal size; what he had mistaken for an enlargement was merely the lowered border of the downwardly displaced liver. There was also present a strangulated hernia with peritonitis. Case 3.—Uremia. Every three or four weeks this patient would have attacks of nausea, vomiting and headache; examination of the urine during this spell would show an almost entire absence of urea and a specific gravity of about 1002, notwithstanding which not more than one pint or at the most two of urine were passed in the 24 hours. The attacks would last three or four days and then entirely disappear.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Treatment of Hay Fever.

Dr. J. Robertson, Cincinnati, in *Med. Council*, states there are four facts dependent on their relation to each other as a basis for theory and treatment of hay fever: 1. There is a constitutional idiosyncrasy. 2. There is an exciting cause. 3. These two acting in conjunction produce the disease. 4. If either the constitutional idiosyncrasy or the exciting cause can be corrected the disease will be mastered.

To remove the exciting cause he dwells upon the inefficiency of the spray and its method of application, as it can only reach the larger and more direct passages, while the inflammatory process extends to tracts of the Schneiderian membrane, which can not be reached by the spray. He therefore strongly recommends the nebulizer as a means of reaching these out-of-the-way places, such as the finer air passages, the sphenoidal and ethmoidal sinuses, the antrum of Highmore and other cavities lined by the Schneiderian membrane. However, he states, it is better, as a first step in the treatment, to spray the nose and throat out with some one of the following:

℞.	Zinci sulphatis	gr. x		66
	Aquæ destil.	℥iv	128	

M. Sig.: Use as a spray in the ordinary cases having a watery discharge.

Where the discharge is profuse, with pain and tenderness, use the following:

℞.	Morphinæ sulph.	gr. ii		12
	Atropinæ sulph	gr. iss		09
	Zinci sulph	gr. xvi		1.00
	Aq. camphoræ, q. s. ad	℥iv	128	

M. Sig.: Use as a spray locally. After using the spray, apply the following in the form of a vapor in the nebulizer to reduce the turgescence and to give temporary relief:

℞.	Cocainæ (pure alk)	gr. viii		50
	Menthol			
	Camphoræ, āā	gr. xx	1	33
	Ol. caryophylli	m. xii		75
	Liq. albolene	℥ii	64	

M. Sig.: Use in the form of a nebula.

For the permanent but less immediate effects he advises *one* of the following, administered by means of the nebulizer or comminuter:

℞.	Zinci sulphatis	gr. xxx	2	
	Creosoti (Beechwood)	ʒss	2	
	Glycerini	℥i	32	
	Aq. destil., q. s. ad	℥iii	96	

Or:

℞.	Quininæ hydrobrom.	ʒss	2	
	Iodi (crystals)	gr. x		66
	Acidi carbol.	ʒss	2	
	Alcoholis	ʒiv	16	
	Glycerini, q. s ad	℥ii	64	

Or:

℞.	Aspidospermine	gr. xv	1	
	Alcoholis			
	Aquæ, āā	ʒiv	16	
	Glycerini, q. s. ad	℥ii	64	

M. Sig.: Use in nebulizer.

[Aspidospermin is a respiratory stimulant and antispasmodic. It can be given internally in doses of one to two grains.]

Or:

R.	Acidi tannici	ʒss	2	
	Glycerini	℥i	32	
	Aq. destil., q. s. ad	℥ii	64	

Or:

℞.	Salol			
	Chloralis hydratis			
	Camphoræ, āā	gr. xv	1	
	Ol. caryophyl	m. x		66
	Hydrocarbol, q. s. ad	℥ii	64	

M. Sig.: To be used in the form of a nebula.

Coakley, New York City, recommends the following to render the mucous membrane less sensitive to irritants:

℞.	Menthol	gr. xl	2	66
	Camphoræ	gr. xx	1	25
	Eucalyptol	ʒi	4	
	Ol. pini pulmilionis	m. xxx	2	
	Benzoinol, q. s. ad	℥ii	64	

M. Sig.: Use in an oil atomizer, every two hours, if necessary.

For six weeks prior to the expected attack he recommends the following:

℞.	Potassii iodidi	ʒiv	16	
	Ext. grindeliæ roberstæ fl	ʒvi	24	
	Elixiris simplicis			
	Spts. vini rectif., āā q. s. ad	℥iv	128	

M. Sig.: One teaspoonful well diluted in water three times daily.

The following is recommended by *Jour. des Pract.*, as a local application:

℞.	Acidi acetici	m. iv		25
	Resorcin	gr. iii		18
	Sodii chloridi	gr. viii		50
	Aquæ	℥ii	64	

The following combination is of service to relieve the attack:

℞.	Heroin	gr. i		06
	Atropinæ sulph.	gr. 1/25		0025
	Caffeinæ cit.	gr. xv	1	
	Salophen	gr. lxxv	5	

M. ft. Cap. 220, xv. Sig.: One capsule every three hours.

It is evident that constitutional disturbances as well as hereditary dispositions enter into the etiology of hay fever. The sufferers from hay fever are usually neurotic, anemic and poorly nourished. The gastro-intestinal tract and the general elimination should receive due attention in the treatment of patients suffering from this disease.

Dr. E. B. Gleason, in a paper published in the *Internat. Med. Mag.*, states that the attention of the profession has been directed to the fact that the neurotic condition of the patient and the hypersensitiveness of the nasal mucous membrane are often due to an excess of uric acid in the blood, and that this excess should be eliminated by the ingestion of mineral acids. Probably any mineral acid would prove efficacious, but there are two which suggest themselves as particularly efficacious: hydrobromic acid, because of its sedative qualities, and nitromuriatic acid. He states that he prefers the latter prescribed in doses of 3 to 5 minims of the freshly prepared, concentrated acid, after meals and at bedtime, well diluted in half a glass of water. The patient should be instructed to rinse out the mouth each time after taking the medicine. He states that he has observed good results from the above preparation within forty-eight hours, and the relief of all the symptoms is usually sufficient to enable the patient to remain at home in comparative comfort. To prevent a recurrence of the attacks Dr. Bruce, of Cincinnati, recommends a tonic treatment as follows:

℞.	Strych. sulphatis	gr. 1/50		0012
	Quininæ sulphatis	gr. ss		03
	Acidi arsenosi	gr. 1/50		0012
	Ferri reducti	gr. ss		03
	Ext. gentianæ	gr. i		06

M. ft. Capsula, No. i. Sig.: One such capsule after each meal for a month, then continue with two capsules after each meal until the underlying condition is cured.

Dobbs, in *British Medical Journal*, relates that he has obtained apparent immunity from hay fever by the use of a strong ointment of liquor carbonis detergens made with benzoinated lard, and not too thick, to be easily painted on the inside of the nostril and snuffed up well from the loaded brush.

Temporary relief may be obtained by reducing the turgescence of the mucous membrane; to do this, the best preparation is without doubt adrenalin, made up in normal salt solution, in strength of 1 in 5000. It quickly and surely reduces the extreme congestion and swelling of the turbinate bodies and enables the patient to breathe easily through the nasal passages, which previously was an impossibility. Chloretone may be used in conjunction with the above preparation.

Non-Operative Treatment of Hemorrhoids.

According to *Clin. Med.*, a careful and thorough washing of the parts after each defecation should not be neglected, and then the use of astringents will be found of value. But should be preceded by a thorough cleansing with soap and hot water. The following is recommended:

℞.	Tinct. catechu	ʒii	8	
	Aquæ	℥ii	64	

M. Sig.: Use as an injection.

To Avoid "Prickly Heat."

Not a few people are distressed during the hot months with an itching and burning sensation of the skin, accompanied by a fine eruption. This is caused by the perspiration, which can not readily evaporate and thus produces the irritation. As stated in *Clin. Med.*, it will be found better to resort to soap and water, used frequently, and to avoid alcoholic and alkaline washes. Once a day, perhaps, the irritated parts should be gently bathed, then dried thoroughly, and afterwards anointed with cocoanut oil. It is absorbed readily and should be applied with the hand. It is not greasy and will not soil the clothing unless an excessive quantity is used.

Specific Mucous Patches.

M. Lutaud recommends the following as a local application to vulvar mucous patches when mercurials are not tolerated:

℞.	Chloralis hydratis	ʒiiss	10	
	Tinct. eucalypti	ʒv	20	
	Aquæ	℥v	160	

M. Sig.: Apply locally.

Treatment of Constipation.

Sir James Sawyer, as noted in the *Med. Record*, states that too many people desire a strong purge, but they should be educated to a more reasonable idea. He states the following rules should guide the practitioner: 1. We should never leave these things to our patients; all should be under our control. 2. We should never give drugs until constipation can not be cured without them. 3. We should never give drugs without well regulated adjuvants of alvine relief. The steady use of purgatives shortens life. He emphasizes the importance of exercise before breakfast and dinner, as follows: 1. Exert pressure on the liver, by placing the heels together, raise the arms at right angles to the body and rotate them backwards and forwards two or three times. 2. Separate the feet, raise the arms and sway from side to side until the hand touches the leg below the knee. 3. The chief points of accumulation are the cecum and the sigmoid; these parts may be compressed by the psoas and iliacus muscles by standing beside a table and putting first one foot and then the other upon it.

Green vegetables should be taken; fruits, especially apples (cellulose excites peristalsis), and marmalade are excellent. As to treatment by drugs, he prefers some preparation of aloes, and considers that belladonna and nux vomica are of little value. He prescribes the following:

℞. Aloes soc.............................gr. i-iii
Ferri sulph.............................gr. 1/4
Ext. hyoscyami ....gr. i
M. ft. pil., No. i. Sig.: At bedtime when necessary.

The quantity requires readjustment, generally a reduction.

Medicolegal.

Right to Make and Use Medical Preparations.—The Supreme Court of Minnesota holds, in the case of the J. R. Watkins Medical Company vs. Sands, that a medical preparation may be used and manufactured by any one who lawfully and in good faith acquires knowledge of its composition, and such person may publish the fact that the product is manufactured in accordance with the original formula, and the fact that such preparation has become popularly known by the name of a certain person gives no exclusive right to any one to appropriate the name as a trade-mark.

Discretion as to Allowances for Care of Sick.—Section 3391 of Mills' Annotated Statutes of Colorado provides that when any person, not coming within the definition of a pauper, shall fall sick in any county of that state, not having money or property to pay his board, nursing, or medical attendance, the county commissioners shall give such assistance to such person as they may deem just and necessary and may make such allowance as they shall deem just and equitable. This statute, the Supreme Court of Colorado holds, in the case of the Board of County Commissioners of Rio Grande County vs. Lewis, was intended to and vests in the board a discretion to allow and pay, in cases of this character, what may be deemed reasonable and fair. Such discretion, as applied to public functionaries, it goes on to say, means the power or right of acting officially, according to what appears just and proper under the circumstances. Courts will not interfere with the exercise of such discretionary authority unless it has been abused. All reasonable intendments must be made in favor of the acts of officials who are under obligations to perform their duties correctly, so long as they appear to be acting in good faith. In order to constitute an abuse of such discretion, it must appear that it was exercised on grounds, or for reasons, clearly untenable, or to an extent clearly unreasonable.

Rendering Services at Agent's Request to Strangers.—The case of Smith vs. the Georgia & Alabama Railway was brought by a physician to recover for services rendered in response to a telephone message to go to the railway depot to see a man who had been seriously hurt. The message, it would seem, was sent by a local agent of the railway company. The injured man was an employe of a drayman, and was injured while endeavoring to move a heavy box from the railway company's warehouse to a dray. The theory on which the action was brought was that the railway company was liable for the professional services rendered to the man, because a local agent of the company at that station had employed the physician to perform such services. And the physician undertook to establish authority on the part of the agent to employ him for the railway company by showing that he had previously, while local agent for the company at another station, repeatedly employed him to "perform medical services of a similar character," and that the company had in every such instance paid for the services rendered. But this evidence, the Supreme Court of Georgia holds, was not sufficient to warrant a finding that the railway company held out this local agent as possessing authority to employ for it physicians to attend strangers—persons to whom the railway company owed no legal duty whatever. While the railway company may have previously paid the physician when employed by that agent "to perform medical services of a similar character," as alleged, the court points out that it did not appear that the agent ever previously employed him or any one else to perform such services to one to whom the company owed no duty, or that the company had ever in any way recognized his authority so to do. Ratification by the railway company could not be implied from its previous acts in paying the physician when employed by the agent "to perform medical services of a similar character," when it did not appear that they were performed under substantially similar conditions and circumstances. Wherefore, the court holds that, as there was an entire failure to show that the agent had any authority to employ the physician to perform the services in question, there was no error in directing a verdict for the railway company.

Quarantine Power no Authority to Buy Vaccine Matter.—The question before the Supreme Court of Georgia, in the case of Daniel vs. Putnam County, was as to the liability of the county to pay for certain vaccine points alleged to have been furnished to and for the use of the county through and by the orders of the commissioners of roads and revenues of the county, and which were actually received and used by and for the benefit of the county. The state constitution provides that the general assembly shall not have power to delegate to any county the right to levy a tax for any purpose, except, among certain other things, for quarantine. Because of this and the fact that the commissioners could not bind the county by the creation of a debt for the payment of which it had no power to levy a tax, the court pronounces it perfectly plain that they had no power to bind the county to pay for the vaccine points, unless the word "quarantine," as used in the constitution, is broad enough in its meaning to include the purchase of vaccine matter to be used in preventing the spread of the smallpox; and the party suing, recognizing this, contended that the vaccine matter which he furnished to the county authorities was purchased and used by them for "quarantine" purposes. But the supreme court does not think that this was a sound contention. It says that to quarantine persons infected with or who have been exposed to the smallpox is one way of preventing the spread of the disease in a community; to vaccinate people who are not infected with the disease, in order that they may become immune therefrom, is another way of accomplishing the same purpose. But vaccination is one thing, and quarantine is another. To quarantine persons means to keep them, when suspected of having contracted or been exposed to an infectious disease, out of a community, or to confine them to a given place therein, and to prevent intercourse between them and the people generally of such community. Persons who are merely vaccinated, and then allowed to go when and where they please and to mingle freely with the other members of the community, are in no sense of the word quarantined. The preventive measure adopted in their case tends to protect them both from contracting the disease and from being quarantined. Moreover, the court says of the ordinary that he is empowered to provide a hospital for those afflicted with the smallpox, and to furnish them (not the members of the community at large) with medical or other attention that, in his judgment, those so afflicted may require, but he cannot furnish vaccine matter and employ physicians to vaccinate the outsiders. He is not authorized to furnish people outside of the hospital, and not afflicted with the disease, with medical or other attention. He can provide regulations to prevent the spread of the smallpox, but the regulations must be quarantine regulations. The expenses of quarantine and other attentions, either medical or nursing, which he is authorized to incur, and of which he must render a proper and just account, are limited to the cases of those whom he may have under control, and who submit to the quarantine regulations. The law has not, however, the court says, left the counties of Georgia powerless to procure vaccine matter to be used in preventing or checking the spread of the smallpox. The governor is authorized and required to procure the necessary quantity of genuine vaccine matter, either by purchase or manufacture and have the same transmitted to the ordinaries of each county in the state for immediate use.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), July 13.

1 *Hydrophobia and the Pasteur Methods. Charles W. Dulles.
2 *The Etiology of Alopecia. Delos L. Parker.
3 *The Future Treatment of Hay-Fever. H. Holbrook Curtis.
4 *The Present Status of the Carcinoma Question. N. Senn.

New York Medical Journal, July 13.

5 *The Home Treatment of Pulmonary Tuberculosis. Robert H. Babcock.
6 *Antitoxin and Intubation in the Treatment of Laryngeal Diphtheria, with a Summary of 230 Operations. Burt Russell Shurly.
7 *The Influence of Mouth-Breathing upon the Dental Arch. M. D. Lederman.
8 A Leaf from the Ancient History of the Anatomy of Catarrh. Jonathan Wright.
9 Address in Pathology, Delivered at the Meeting of the Texas State Medical Association, at Galveston, Texas, April 26, 1901. Allen J. Smith.
10 *Neuroses as Seen in Orthopedic Practice. R. E. McKenzie.
11 Sexual Intemperance: Some Explanation of What Is Meant by the Term. Jennie G. Drennan.
12 *An Operation for Prominence of the Auricle. Thomas R. Pooley.

Philadelphia Medical Journal, July 13.

13 The Father Reigel Murder Case. William G. Porter.
14 *Coxalgia. E. H. Coover.
15 The City's Obligation to Provide Special Education for Defective Children. Clarence E. Meleney.
16 *Remarks on the Treatment of Eczema. W. R. Inge Dalton.
17 *Skin Grafting by Means of Freezing, with Reports of Some Cases. Gaston Torrance.
18 Report of a Case of Complete Right Oculomotor and Complete Left Trifacial Paralysis. C. A. Veasey.
19 Photo-Mechanical Reproduction. (To be continued.) B. H. Buxton.

Boston Medical and Surgical Journal, July 11.

20 *Two Cases of Pregnancy Complicated by Mitral Insufficiency. Henry D. Chadwick.
21 *Albuminuric Retinitis and Uremic Amaurosis, with Especial Reference to Their Occurrence in Pregnancy. Edmund W. Clap.
22 Congenital Pelvic Malposition of Left Kidney in a Woman. John W. Dewis.
23 A Case of Extra-uterine Pregnancy; Diagnosis at End of Second Month; Operation; Recovery. Oscar J. Pfeiffer.

American Medicine (Philadelphia), July 13.

24 *Removal of the Female Urinary Bladder for Malignant Disease. Matthew D. Mann.
25 *Total Extirpation of the Urinary Bladder. J. Wesley Bovée.
26 *Ankylostomiasis in the United States. Report of a Case. Herman B. Allyn and M. Behrend.
27 *Phlebitis Following Abdominal Operations. Albert Vanderveer.
28 Report of a Case of Carcinoma at the Cardiac End of the Esophagus, a Distance of 21 Inches from the Incisor Teeth, in a Man 5 Feet, 3 Inches Tall. C. D. Spivak.
29 A Medico-Surgical Bedstead. Adolfo Luria.

Medical News (N. Y.), July 13.

30 The Diseases of Nutrition in Infants. T. M. Rotch.
31 *The Medicinal Treatment of Summer Diarrhea. Thomas S. Southworth.
32 *The Hygienic Treatment of Summer Diarrhea of Infants. Henry C. Hazen.
33 *After-Treatment of Summer Diarrhea of Infants and Children. William M. Taylor.
34 *The Clinical Features and Treatment of Acute Bronchitis in Children. Charles O'Donovan.
35 *Empyema. John A. Hartwell.
36 *Sexual Neurasthenia in the Male: A Plea for a More Accurate Use of the Term; Treatment of the True Form with Citation of Cases. Ramon Guiteras.
37 *Masturbational Neuroses. William C. Krauss.

St. Louis Medical Review, July 13.

38 The Heart Lesions of Infancy and Childhood. I. A. Abt.

The Cincinnati Lancet-Clinic, July 13.

39 *The Etiology and Treatment of Rheumatoid Arthritis and Allied Affections. Gilbert L. Bailey.
40 The Old Doctor. George J. Monroe.
41 Urethral Laceration; Union Without Suture. C. S. Muscroft and H. A. Ingalls.

Medical Age (Detroit), June 25.

42 Nature in Obstetric and Gynecologic Practice. B. D. Harison.
43 The Protyle as the Basis of Elemental Individuality. Noah E. Aronstam.
44 The Treatment of Epilepsy Daniel R. Brower.

American Practitioner and News (Louisville), May 15.

45 *Adenomata and Adenocystomata of the Ovary; Cysts and Cystic Degenerations of the Kidney. August Schachner.
46 *Some Questions Regarding the Danger of Septic Infection from Certain Remedies and Methods in Common Use. A. G. Blincoe.

Louisville Monthly Journal of Medicine and Surgery, July.

47 Two Cases of Cholecystitis Associated with Gall-stone, Simulating Appendicitis. F. W. Samuel.
48 Valves of the Rectum. Geo. J. Monroe
49 Ventral Hernia: Prevention and Cure. Louis Frank.
50 The Necessity for Medical Legislation J. N. McCormack.
51 Suspension of Uterus. R. Lindsey Ireland.
52 Popular Address, Kentucky State Medical Society. Young E. Allison.
53 Some Remarks upon the Treatment of Various Types of Anemia. R. D. Moore.

Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), July.

54 *Sarcoma and the Sarcoid Growths of the Skin. James C. Johnston.
55 A Case of Gummatous Ulcer of the Bladder with Abscess of the Prostate and Left Seminal Vesicle, Complicated with Retention, Treated by Sectio-Alta and Excision with Curettement. Granville MacGowan.
56 *Examinations of Urine in Diseases of the Male Sexual Organs. Louis Heitzmann.
57 *Inversion of the Tunica Vaginalis for Hydrocele. Robert H. Greene.

Toledo Medical and Surgical Reporter, July.

58 General Considerations of Fractures. S. S. Thorn.
59 Mastoiditis. Frank Jacobi.
60 Therapeutic Uses of Eucalyptus, with Report of a Case. C. Wm. Newton.

Indiana Medical Journal (Indianapolis), July.

61 *The Ambulatory Treatment of Fractures. J. H. Cannon.
62 *Some Uses of Local Anesthesia in Genito-Urinary Surgery. Wm. N. Wishard.
63 *The Present Position of the Diagnosis of Cancer of the Stomach. Alois B. Graham.
64 A Consideration of the Ureter, Particularly as Affected by Pregnancy. Frederick R. Charlton.
65 Glioma of the Retina. F. C. Heath.
66 Shock; Its General Consideration and Relation to Surgical Procedures. William M. Wright.

New Yorker Medicinische Monatsschrift, June.

67 Ein Fall von angeborenem Colobom des oberen Augenlides. A. Schapringer.
68 Casuistische Faelle aus der Praxis. Carl Hoening.
69 Klimatische und balneologische Curorte in Tyrol. (Conclusion.) Dr. Jur. Baumfeld.

Medical Summary (Philadelphia), July.

70 The Diet of Typhoid and Some Cases of Interest. Wm. Edgar Darnell.
71 Impacted Cerumen. B. A. Washburn.
72 Post-Abortion Hemorrhage; How to Control It. Geo. H. Candler.
73 Treatment of Hypertrophied Prostate Glands. (Continued.) H. B. Stanley.
74 Typhoid Fever—Pneumonia with Effusion; Operation. Ira A. Marshall.
75 Is It So? Some Sense Wanted—Curious Case, Etc. (Methylene Blue, Rabies, Etc.) Ben H. Brodnax.
76 The Seidlitz Salt in Catarrh of the Stomach and Rheumatism. W. C. Buckley.

Buffalo Medical Journal, July.

77 *The Prevention of Tuberculosis. B. G. Long.
78 How Are We Educating Our Children? A. W. Bayliss.
79 Malaria Representing Three Varieties Observed in Buffalo. Julius Ullman.
80 Physiology of the Kidney. (Continued.) Byron H. Daggett.

Kansas City Medical Index-Lancet, July.

81 Headaches. George N. Thomas.
82 What Has the Bacillus Pestis to Do with the Bubonic Plague? James Clements.
83 The Relative Value of Medical Advertising. John Punton.
84 Fistula in Ano. J. M. Frankenburger.

Oklahoma Medical Journal (Guthrie), June,

85 *Some Diseases Complicating Pregnancy. Bertha H. Campbell.
86 The Use of Anesthetics in Normal Labor. S. F. Roberts.

Columbus Medical Journal, June,

87 Address Delivered before Ohio Medical University. Louis E. Holden.
88 Address on Behalf of the Faculty—Ohio Medical University Commencement. Josiah Medbery.

89 Fibrinous or Plastic Bronchitis. Starling Loving.
90 Sewage Disposal or Purification: The Chemical Treatment. C. O. Probst.
91 Septic Treatment. A. M. Bleile.
92 The Filtration or Land Process. D. N. Kinsman.
93 Water Pollution. G. M. Clouse.

Medical Mirror (St. Louis), June.

94 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.
95 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.

International Journal of Surgery (N. Y.), July.

96 Rheumatoid Arthritis. W. H. Neilson.
97 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
98 Management of Placenta Previa. J. G. Kelly.
99 Regional Minor Surgery. (Continued.) George G. Van Schaick.
100 The Surgical Assistant. Walter M. Brickner.
101 Clinical Observations on Amenorrhea and Dysmenorrhea. F. Levasseur.
102 Fracture of the Cervical Vertebræ—Report of a Case. D. C. Bowen.
103 Treatment of Burns. W. W. Pugh.

Medical Dial (Minneapolis), July 1.

104 Events in the History of American Surgery—A Brief Review. Franklin Staples.
105 *The Successful Treatment of Aural Pain. H. A. Beaudoux.
106 The Science and Art of Surgery: Its Progress During the Nineteenth Century, and Its Prospects for the Twentieth. R. W. Garrett.

Mississippi Medical Record (Vicksburg), July.

107 Gastro-Intestinal Infection of Children. J. C. Ballard.
108 Quinin Hypodermically—Its Indication and Technique. J. M. Dampeer.
109 What Was It? (Post-Delivery Spasms.) Ben H. Brodnax.

Alienist and Neurologist (St. Louis), July.

110 The Physician's Duties in Committing Insane to the Hospital. Prof. Hoche.
111 Heredity and Epilepsy. Sanger Brown.
112 Fatigue in Its Relation to Consciousness. W. Xavier Sudduth.
113 *The Prophylaxis of Insanity. A. DeBord Young.
114 Combined Monobrachial Chorea and Writer's Cramp from Occupation Strain. C. H. and Marc R. Hughes.
115 Degeneracy Stigmata as a Basis of Morbid Suspicion. (To be continued.) James G. Kiernan.
116 *Race Degeneracy and Dental Irregularities. E. S. Talbot.
117 The Development of the Sexual Instinct. (To be continued.) Havelock Ellis.
118 The Legal Disabilities of Natural Children Justified Biologically and Historically. E. C. Spitzka.

Archives of Pediatrics (N. Y.), July.

119 *The Early History of the Summer Diarrheas of Infants. W. D. Booker.
120 *A Report of Twelve Operations on Infants and Young Children During Spinal Analgesia. William S. Bainbridge.
121 *Hemorrhage from a Pyothorax. A. Jacobi.
122 Report of Two Cases of Tuberculosis of the Hip and Spine, Treated with Large Doses of Creosote. Agnes Walker.

Medical Standard (Chicago), July.

123 A Few Selected Cases from a Surgical Clinic (Enlarged Prostate, Keloid, Etc.). John B. Murphy.
124 Appendicitis and Its Treatment. A. J. Ochsner.
125 Rectal Fistula. J. Rawson Pennington.
126 Drug Habits and Their Treatment. T. D. Crothers.
127 Some Obstinate Digestive Disorders. David Paulson.

Texas Medical News (Austin), June.

128 State Medicine—Medical Jurisprudence. R. H. Harrison.
129 Typhoid Fever. M. M. Myers.
130 When and Where to Operate for Appendicitis. Albert G. Krueger.
131 A Few Remarks on the Treatment of Albuminuria. John S. Lankford.
132 Hernia Complicated by Hydrocele of Chord and Retained Testicle; Operation. H. B. Hill.

Memphis Medical Monthly, July.

133 Comparative Value of Iodids and Mercury in the Treatment of Syphilis. Eugene Carson Hay.
134 Observations Based on Additional Experience with Intubation of the Larynx in Laryngeal Diphtheria. Richmond McKinney.
135 Observations on the Use of Hypnotics. H. P. Coile.
136 Hypodermic Medication. L. G. Bouton.

Southern Practitioner (Nashville), July.

137 Annual Address at the Meeting of the Association of Medical Officers of the Army and Navy of the Confederacy. James M. Keller.
138 Corneal Ulcers. Hilliard Wood.
139 Thiocol and Bisol. Q. C. Smith.
140 Summer Diarrhea in Children. H. S. Baketel.

AMERICAN.

1. **Hydrophobia.**— Dulles' article is an attack on the Pasteur method of treatment for rabies. He claims that it has not lessened the death-rate from this cause and that the statistics in its support are fallacious. He states that we will never get any correct ideas of that disease until the profession gives up the use of caustics, narcotics and violent restraint in the treatment of the fully developed disorder.

2. **Alopecia.**—The theory of Parker—elsewhere formerly noticed—that the loss of hair is due to defective breathing and air stagnation in the upper lung is here repeated and the author has attempted experiments to demonstrate it. The superior costal type of respiration is favorable to hair growth and as women use this more than men, they are less likely to suffer from loss of hair. The experiments he performed were done by the use of respired air in a closed receiver with water so that the latter absorbed the air and was used as an injecting liquid. The experiments were on pigeons and he gives illustrations showing what he considers the effects of this cause. He suggests the name trichotoxicon for the toxic product which is the cause of alopecia and asks if it is developed when respired air is chambered in the presence of warmth and moisture outside the lungs whether the same substance will be developed when respired air is chambered with the same surroundings inside the lungs. It certainly is difficult, he says, to think of any reason why it should not. Again, if trichotoxicon circulating in the blood current of lower animals exerts a specific action on certain tissues of that animal, is it proof that the same substance introduced into the blood of a human being will exert a like influence on tissues of an analogous nature? While proof seems to be too strong a word to use in this connection, it is not too much to say that it is a great probability that it will; hence, he thinks it not unreasonable to conclude that alopecia of the type under consideration is caused by an auto-infection in which trichotoxicon is taken up by the blood from the air-cells in the lungs where it has been elaborated during decomposition of organic matter normally present in respired air.

3. **Hay Fever.**—After first referring to his former paper on the subject, Curtis gives further results and testimonies as to the effect of the use of preparations of ragweed for the cure of hay fever, that is, more particularly, for that form which is induced by the pollen of this plant. He thinks it is possible that tincture of golden rod or some other plant may be found efficacious in those cases where ragweed fails. Thus far his investigations have been very encouraging in affording a means for checking this uncomfortable ailment.

4. **Carcinoma.**—According to Senn, carcinoma is due to atypical proliferation of the epithelial cells from the matrix of embryonic cells of congenital or post-natal origin. The law of legitimate succession of cells holds true in the origin and growth of tumors, both benign and malignant, as well as in the production of normal and inflammatory tissue. Being primarily epithelial, carcinoma in the mesoblastic tissue is impossible except by displaced inclusions of epithelial tissue. The histology and histogenesis of carcinoma are against the parasitic origin of the disorder. The stroma of carcinoma consists of pre-existing connective tissue fibers and their descendants. Carcinomatous cells usually multiply by irregular atypical karyokinesis and this pathologic segmentation is an important indication of malignancy and of considerable diagnostic value. The progressive extension of tumors to adjacent tissues and organs, regardless of their structure, is strong proof of carcinomatous character. Regional metastasis takes place exclusively through the lymphatic channels and the pre-existing lymphatic structures take no active part in the origin and growth of secondary tumors. The general dissemination of carcinoma usually takes place by direct implication of veins in the primary or secondary tumors. The carcinomatous cells reach the venous circulation through the formation of an

intravenous tumor thrombosis or carcinomatous endophlebitis or through perforation of the vein walls by carcinomatous cells. Retrograde intravenous extension is due to the transportation of minute emboli of carcinoma cells against the current surrounded by a mantle of blood corpuscles which move step by step on the intima. Retrograde extension through lymphatics may take place in the same manner, but is more frequently the result of carcinomatous endolymphangitis. The increase of carcinoma is more apparent than real and heredity is a generally recognized predisposing cause. As a rule it occurs in elderly persons, but occasionally is met with in individuals under 25 and then is specially malignant. It seldom follows a single injury, but generally follows repeated or prolonged irritation. Among the predisposing causes must be enumerated racial, climatic, and topographical influences. Chronic inflammatory products, cicatrices, and benign epithelial tumors are favorable local conditions. The positive results of implantation and inoculation experiments have thus far failed in establishing the parasitic theory and a careful study of the experimental researches and the bacteriologic and histologic investigations do not warrant us at present in claiming a parasitic origin for carcinoma. The experience of centuries with medication has demonstrated that thus far carcinoma is not materially bettered in this way. Direct medication of carcinomatous tissue by parenchymatous injections has no influence, while the injection of sclerogenic substances into the surrounding connective tissue appears to restrain the local extension by impairing the blood supply. Local applications of any kind for ulcerative carcinoma can be only palliative at best. The actual cautery and chemical caustics have only a limited field of usefulness in open inoperable carcinoma and should never be used in treatment of closed carcinoma in place of the knife. The serum treatment has yielded only negative results. The early and radical operative treatment offers the only prospect for permanently eliminating the disease, which can be determined only after a lapse of ten years or more after operation. Radical operation should never be attempted unless local conditions and the general health are such as to warrant it. Admitting carcinoma to be the product of erratic, planless cell growth, not governed by the influence of the regular normal tissue change, it appears logical to make experiments and observations to find the remedy which will destroy the tumor by causing early and steady degeneration of its parenchyma, or which possesses the property of converting embryonic into mature epithelial cells, thus converting a carcinoma into a benign epithelioma.

5. **Home Treatment of Tuberculosis.**—The essentials of success in the treatment of pulmonary tuberculosis are building up the hygiene of the patient's daily life, this including the building up of tissue resistance by super-alimentation, sojourn in the open air as much as possible under conditions determined by the patient's temperature, hydrotherapy, and careful and methodical regulation of life. While these conditions can be best met in a sanatorium, they can be obtained by patients at home, regardless of climate. For building up the system Babcock relies largely on a concentrated nutrition with milk and eggs properly seasoned, and absolute rest in the open air as long as the temperature rises above 99 F. There is no antipyretic so suitable and efficient as fresh cool air. Hydrotherapy is also important because it is stimulating and generally invigorating. Beginning as a sponge bath with tepid water given by a nurse and followed by vigorous friction, it should gradually be made more and more severe until at length the invalid can endure a shower bath of cold water or the so-called "pail douche." The only essential condition is that it be always succeeded by good reaction. Lastly, the daily regime must be faithfully and systematically persevered in. The physician should see his patient often enough to keep control of him, to give in detail the requirements and to enforce carrying out of all orders.

6. **Antitoxin in Diphtheria.**—Shurly gives a summary of results from 230 operations and insists on the value of the antitoxin and early use of the tube when respiration is obstructed. He says no method of treatment in any case demonstrates more fully than antitoxin the value of bacteriologic and chemical research and there are few greater medical inventions than the O'Dwyer tubes.

7. **Mouth Breathing.**—The various theories as to the influence of mouth-breathing in the development of the dental arch are noticed by Lederman, who holds that it does influence the growth. He insists on the removal of post-nasal adenoids as early as possible.

10. **Neuroses in Orthopedic Practice.**—The cases published here appear to be purely neurotic or functional disturbances relieved by judicious treatment. McKenzie insists on the importance of early diagnosis, systematic training and careful individual treatment. If there is an actual organic condition co-existing, it should be thoroughly attended to, but the main key to treatment is discipline, not that which calls for submission, but that which succeeds in educating patients to be self-reliant.

12. **Auricular Deformity.**—Pooley recalls here the operation first performed and described by the late Dr. Edward T. Ely and reports a case in which he closely followed Ely's method for reducing deformity of the auricle. The operation consisted essentially in excising a strip of skin and subjacent tissue on the back of the auricle at the groove between it and the side of the head, the inner border of the excision being on the auricle, and a smaller portion of cartilaginous substance then, as it were, taking a gore or reef out of the prominent auricle. The results were good. He calls the attention of the profession to this method, which he thinks can be highly recommended.

14. **Coxalgia.**—A new form of treatment recommended by Coover is the surrounding of the joint with an ice-cap, kept constantly replenished. Cure soon followed the application in the case reported. Night-sweats disappeared within a week and sleep was better and free from pain. In fifteen days the patient was relieved of all suffering, though the knee and heel taps were still painful. Cure seemed complete in about six months. No extension or counter-extension was employed. He reports two other cases, one of a lady who was cured, and the other of traumatism of the hip joint, which was greatly improved.

16. **Eczema.**—Dalton maintains that the treatment of eczema consists in taking into consideration the general underlying conditions, not forgetting the stage of the disease and any abnormal conditions of the other organs which may aggravate the condition. Neurotic or anemic patients should have tonics, such as phosphorus, iron and mineral acids. A rigid dietary should be enforced; meat, if allowed at all, should be given only once a day; no oatmeal, no strawberries and no sugar, even in tea or coffee. This should be kept up for several weeks. Water should be drunk in large quantities. The alimentary canal should be kept as antiseptic as possible by naphthalin, charcoal, and ipecac. He has lately been using ichthyol combined with arsenic in doses of 1/60 to 1/30 of a grain of ammonium sulph-ichthyolat with 1/20 to 1/40 of a grain of arsenic, three times a day after meals. Water for bathing purposes should be rendered alkaline, and local irritants of any kind avoided. If the eczema is caused by parasites, germicides are required and in squamous varieties 5 per cent. ointment of chrysarobin and pyrogallol or ichthyol ought to be exhibited, if there is not much secretion. All those etiologic factors springing from neurotic conditions, anemia, leukemia, constipation, etc., whether of local or general nature, internal or external, should be completely regulated and proper remedies prescribed.

17. **Skin Grafting.**—While looking around for some convenient and simple method of skin grafting without using general anesthesia, freezing with ethyl chlorid suggested itself to Torrance and he reports four cases in which it was employed with excellent results. He thinks the method specially applicable where the surrounding tissue has become degenerated, as the newly formed skin apparently partakes of the character of the graft. The method is painless and enables one to cover considerable areas at a sitting and, of course, anesthesia is

not required. It may be employed in private practice as well as in hospitals.

20. **Mitral Insufficiency in Pregnancy.**—Chadwick reports two cases which have filled him with a wholesome dread of mitral insufficiency in the pregnant condition, and led him to think that the only appropriate treatment of these cases is to watch the patient closely from the beginning, and as soon as lack of compensation is seen, to advise and urge, for the necessity of saving her own life, the termination of pregnancy as soon as possible.

21. **Albuminuric Retinitis and Uremic Amaurosis.**—These conditions are rare in pregnancy, but very important when they occur. Albuminuric retinitis is a disease accompanied by immediate visible changes in the eye with albumin always present in the urine. It may occur at any time during the pregnancy, especially beginning during the first two months or after the sixth month, and its prominent symptom is gradual failure of vision. It is apt to recur in successive pregnancies, though not necessarily so, each recurrence producing more and more damage. Uremic amaurosis is a disorder of the visual apparatus not accompanied by immediate visible signs though it may finally lead to atrophy. It occurs late in the pregnancy, usually with other signs and symptoms of eclampsia, so that it seldom has to be considered alone. It apparently never destroys the vision at the first attack and is apt to recur in successive pregnancies. The treatment of both conditions is the treatment of albuminuria with rest for the eye, influenced by atropin and dark glasses, if necessary. The prognosis of both forms is generally favorable for the first attack but less so for recurrences. The prognosis for the sight is bad in albuminuric retinitis if it comes on before the sixth month, especially if it begins during the first two months. Abortion should be considered in albuminuric retinitis, occurring early, if the retinitis is of a very severe type and hemorrhagic, or if a slight retinitis progresses under treatment, remembering that in these cases the life of the child is uncertain, and that the mother runs grave risks of eclampsia if the pregnancy goes on to term. Occurring after the sixth month it is better to wait and watch and not to induce labor unless other symptoms are demonstrated. In subsequent attacks it may be necessary to do so.

24. **Extirpation of the Bladder.**—Mann reports two cases of extirpation of the bladder by implantation of the urethra and ureters into the vagina, the method being described. The abdomen is opened by incision down to the symphysis, the patient put in the Trendelenburg position, the peritoneum cut from side to side across the fundus of the bladder and then stripped away. The bladder is also separated from the front wall of the pelvis as far down as the neck. After the bladder is all loosened except at the base, the neck is first tied and then cut with the scissors, the finger being introduced into the urethra as a guide. The incision is then carried through the anterior vaginal wall, so as to include the whole base of the bladder, and to cut the ureters just as they enter the bladder wall, the finger in the vagina aiding materially in this step. The piece to be removed from the anterior vaginal wall to which the base of the bladder is attached, is about as large as a silver dollar. In this way both the ureters and urethra open directly into the vagina. It is entirely unnecessary to try to do anything with the ureters as they continue patulous and discharge into the vagina after cicatrization. The hemorrhage is slight and after the removal of the bladder and the body of the uterus, the tubes and ovaries can be removed. The peritoneal wounds made by removing the bladder and uterus are closed separately. If the uterus is involved in the carcinoma the technic will be somewhat different. After opening the abdomen and cutting the broad ligaments to the uterine cervix, a flap of peritoneum should be stripped from the back of the cervix and the vagina in the cul-de-sac. A peritoneal flap is also separated from the anterior surface of the cervix and the uterine arteries tied, or the anterior branch of the anterior branches of the internal iliacs may be tied so as to cut off all the blood-supply of the pelvic floor. The peritoneum over the bladder is then cut transversely and the bladder enucleated. After the neck has been tied and cut across, the vagina is incised in front and the incision then carried around on each side so as to meet the opening already made in the posterior fornix. In this way the bladder, the whole anterior vaginal wall and the uterus are removed without separating them and the danger of infection of the surrounding tissue is much lessened. The peritoneum covering the bladder and cervix in front and behind must be left intact, unless it be infected. When sutured it should entirely cover the peritoneal floor. For the after-treatment, the newly-made bladder should be kept drained by a self-retaining catheter introduced into the urethra and the cavity washed frequently with some antiseptic solution. The administration of benzoate of ammonium in 20 gr. doses, aids in keeping the urine free from germs and favors healing. If the vagina is not closed, frequent vaginal douches must be used, care being taken to ensure the douche entering the space left by the removal of the bladder. He thinks the method has its advantages, but whether the vagina should be closed at the time of extirpation is a thing to be decided. In the future he will do it, if the patient's condition warrants.

25. **Extirpation of the Bladder.**—After a discussion of the subject and giving a tabulated report of cases from the literature, Bovee offers the following conclusions: 1. Until a more satisfactory plan of disposal of the ureters is found cystectomy should never be undertaken for conditions other than exstrophy, when partial extirpation of the organ is possible. Even a very small portion of the bladder into which the ureters may be debouched is practically free from the great danger of infection incident to bowel grafts, and further such disposition of the ureters is more easily executed. 2. For exstrophy the Maydl and the Pozzi operations are quite satisfactory, though the danger of infection seems ever present. 3. Rectal graft of the ureter in its continuity and skin grafting of this duct are highly dangerous. 4. Uretero-vaginostomy is practically free from ascending infection though it gives far from perfect results. 5. The urethral graft of the ureter seems free from infection, but the constant dribbling of urine is but slightly ameliorated by the use of a urinal. 6. The Mauclaire-Gersuny operation is worthy of a further application, inasmuch as it provides for both sphinctered bladder and bowel.

26. **Ankylostomiasis.**—Allyn and Behrend report a case and briefly notice the previous cases that have been reported as occurring in the United States. They describe the symptoms and think that the parasite is not so rare in this country as has been generally supposed. With our increasing intercourse with the West Indies, it is likely to become more frequent.

27. See abstract in The Journal, p. 1502.

31. **Summer Diarrhea.**—The acute gastro-intestinal infections in children during the heated term are of three types: 1, that due to indigestion; 2, that due to bacterial action in tainted milk, and 3, cholera infantum, another often fatal type probably also due to milk infection. The first of these treated early by prompt evacuation of offending substances and suitable feeding, tends naturally to recovery. The successful treatment of the second class depends largely on the complete stoppage of the use of milk, and the promptitude with which any vestiges of its residue are evacuated from the intestines. Breast milk should be stopped in all cases of summer diarrhea in children under two years of age, which begins with vomiting, and temperature, and the dextrinized barley-water, rice water, egg-albumin water, mutton broth, and beef broth used. If there is thirst, plenty of plain boiled water should be given. Feeding should not be oftener than once in every two or three hours and in case of vomiting the stomach should be allowed to rest as far as possible for twelve hours. The medicinal treatment consists in producing thorough action of the intestinal tract for the removal of decomposing and fermenting matters and all milk residue. Castor oil and calomel are both useful. Calomel further acts as a local disinfectant. When given in small doses repeated it is hardly ever necessary to follow it with salines. Where the case has existed for some time and pyrexia and prostration are marked, irrigation of the bowels should at once be resorted to. The choice of tempera-

ture depends on the pyrexia. Primarily it should be lukewarm, but may be cool if the fever is high. Allowing the fluid to flow while the oiled catheter is introduced distends the tube and bowel in advance, facilitating the introduction. To be effective the catheter should go above the sigmoid, and at least four quarts should be allowed for the irrigation with a pressure of not over three feet. The excess will escape in gushes beside the tube. If there is blood in the stools a little tannic acid should be added. Increased peristalsis causing frequent evacuations needs special treatment, opium best serves our purpose to check it; high fever, however, contra-indicates this. In severe types the hypodermic use of morphin sulphate .01 of a grain for a child one year of age not only acts upon the peristalsis, but steadies the pulse and should be employed with 1/800 of a grain of atropin. Where the loss of fluid is very great and can not be made up by ingestion, high saline enemata should be given, or, if necessary, saline hypodermoclysis. A tendency to frequent stools may persist after the acute symptoms and Dover's powders and tannalbin are often useful, but the author recommends a mixture of pepsin in the following *prescription:*

℞ Pepsinæ ....gr. i
Acid hydrochlor. dil ....m iii
Glycerini ....m iiii
Aquæ menthæ pip ....ʒss
Aquæ ....ʒi

M. Sig: In water four times a day after food. Stimulants are often required during an acute stage. When the stools have improved in color and consistency, and the child's general condition indicates a return of more normal conditions, cow's milk may be employed, beginning with a dram to the ounce, or even less. Recovery from a severe attack is usually slow and may take considerable time. Extreme care should be exercised for ten days or two weeks at least.

32. **Hygienic Treatment of Summer Diarrhea.**—The measures recommended by Hazen are the best quality of food, given at regular intervals, prevention of overcrowding of the room and absolute quiet, light loose clothing, use of water and trips, if possible, on the water or in floating sanatoria.

33. **After Treatment of Summer Diarrhea.**—This, according to Taylor, is essentially hygienic and dietetic. Of the various prepared foods the most satisfactory is cow's milk with dextrinized barley-water as a diluent. He describes the method of making the percentage of milk and cautions against beginning with too high a percentage. A good plan he says is to decide on the number of feedings, the amount of sugar, cream and diluent to be taken by the child. For example, he would take three ounces of whole milk, one dram each of sugar and cream, and three ounces of barley-gruel. Seven feedings of this amount in proportion may be given in the twenty-four hours. The gruel is prepared by adding two full tablespoonfuls of barley-flour to one quart of water and boiling for fifteen to twenty minutes. Then add two teaspoonfuls of Cereo, or dextrinize the barley water with any other reliable preparation. If the above treatment fails, kumyss stands next in his estimation. Beef juice three times a day is of value. If the child is two or three years old beef, mutton, and chicken broths with fat carefully removed, and dry toast, etc., may be given. Inunctions of cod liver oil are specially indicated in children with sluggish circulation. Tonics are nearly always needed, and the syrup of ferric iodid seems the best of all forms of iron treatment. Other requisites are the relief of constipation by abdominal massage if possible, or some laxative, such as the fluid extract of cascara,—from 5 to 8 drops in older children,—and lancing of gums if required; a morning sponge bath and life in the open air in the daytime as far as possible and in a well-ventilated sleeping room at night. High irrigation of the colon with normal saline solution is better for the mucous colitis following summer diarrhea than any medicinal remedies.

34. **Infantile Bronchitis.**—O'Donovan describes the treatment of acute bronchitis in children, which is imperative as soon as the case is diagnosed. In the milder cases, regulation of the diet, mild laxatives, comfortable warmth of surface, with good ventilation are all that is required. Babies take medicine badly and are best treated by local applications and inhalations, such as the oiled silk jacket and stimulating liniments to produce mild irritation of the skin, steam inhalations, etc. Of expectorants he would use very little; the compound syrup of hypophosphites is best in young children. Older children take medicines better. They should contain muriate of ammonia in proportion to the age of the child. Hypnotics should be given with judgment; sodium bromid will sometimes be all that is necessary. In prolonged cases, where the heart-action is rapid and the organ becomes fatigued, strychnin hypodermically is of great service. In every case the child should not be allowed full liberty until the disease is completely cured and should remain indoors until the bronchial catarrh has entirely disappeared. The cure may be hastened by judicious feeding, stimulants, frictions of the chest, and the use of cod liver oil, iron and arsenic if the child is anemic.

35. **Empyema.**—The following is the summary of Hartwell's article: 1. Children are especially liable to empyema following pneumonia. Unless promptly relieved by drainage of pleura the prognosis is bad. With such relief the prognosis is good. 2. Pneumonia caused empyema in 50 per cent. of the cases here considered, and such cases were of severe type. 3. Tuberculous family history exerts little influence on empyema. 4. In about one-sixth of the cases the empyema was sacculated. 5. The pneumococcus was found in 50 per cent. of the cases where examination was made; the streptococcus in 33 1-3 per cent.; the staphylococcus in 8 per cent.; the tubercle bacillus in 4 per cent., and no bacterium in 16 per cent. The pneumococcus produced the most virulent infection. 6. Chloroform was the anesthetic of preference. Deep narcosis is contra-indicated, owing to the danger of pus being drawn into the other lung from a ruptured bronchus. 7. In adults with general empyema two inches of the seventh and eighth or eighth and ninth ribs in the posterior axillary line should be resected. In children the same length of the seventh rib. Simple incision, with our present knowledge, is rarely advisable. 8. Operation is indicated as soon as diagnosis is made. 9. Irrigation of the abscess cavity with bichlorid solution, 1-5000, or carbolic acid, 1-100, is indicated, unless drainage is perfect and no sepsis is present. In children the solution may be weaker. 10. The mortality from the empyema proper was 15 per cent. We may hope to reduce it to one-half that number by earlier and more radical treatment.

36. **Sexual Neurasthenia.**—Guiteras deplores the inaccurate use of the term and insists on the necessity of thorough examination of the genital tract as a routine practice in every case of neurasthenia. Frequently the relief of local lesions will be sufficient for the cure. The symptoms of the condition are described and the term, he maintains, should not be limited to those cases which show prominent sexual symptoms; it should be extended to include any cases of neurasthenia in which lesions of the genital tract are found. The treatment is local or general, the former consisting in the relief of morbid conditions, strictures, prostatic inflammation, varicocele, etc., and the latter, in the regulation of diet, attention to the digestion, exercise and hydrotherapy. The cold sponge bath, he thinks, is of prime importance. Exercise, if not fatiguing, is of value, and in conclusion he mentions the use of static electricity.

37. **Masturbational Neuroses.**—Krauss holds that the bad sexual habits are the cause of a large proportion of the neuroses, if not of all, and he advises against giving a favorable prognosis in cases of nervous disease with an underlying history of masturbation coupled with a neurotic family history.

39. **Rheumatoid Arthritis.**—Bailey holds to the bacterial origin of this condition and favors the use of dry hot air followed by massage. He has seen great benefit thus produced. He thinks it is by no means a hopeless disease, but the earlier the treatment is instituted the better. Special attention should be given to lesions of the mucous membranes during middle life and especially to the menstrual disorders in women near the climacteric. Patients should be warned that the slight inconvenience attending the Heberden's nodes may be pre-

monitory of a more serious trouble. No case, however, is too old to be benefited by treatment.

45. **Ovarian Adenomata.**—The article of Schachner is a discussion of the literature on the subjects included in its title. He gives the characteristics of malignant tumors, using as his text the cases personally observed, defining also the Waldeyer cysts which arise from paroophoritic cystic degeneration of the kidney, with discussion of special points as to the diagnosis.

46. **Septic Infection.**—Blincoe calls attention to certain dangers that appear to him possible in the therapeutic methods as commonly practiced. First he asks whether in the light of modern pathology, aided by bacteriology, the promiscuous use of blisters as ordinarily employed is not a dangerous practice, leaving as it does a raw surface in which diseased masses can gain access to the body, unless all the antiseptic precautions are observed. The same question is also asked in regard to the use of wet cups. Another point is the carelessness of dentists and others in handling the instruments used in extracting teeth and still another is the use of the Kelly pad commonly employed in ordinary obstetric practice. He believes that the average practitioner pays little attention to sterilization of the rubber bag. Another common and dangerous practice is the careless use of the uterine sound.

54. **Cutaneous Sarcomas.**—The wide variance in regard to the subject of sarcomas in the medical literature is first noticed by Johnson, who remarks that the etiology of the entire class of disorders is unknown. The classification which he follows here in this article is a histogenetic one. He divides sarcomatous neoplasms into three groups: Fibroblastic sarcoma, the lymphoid cell class, and sarcoid growths. 1. The first of these comprises spindle- and round-celled tumors. True giant-celled sarcoma is not primarily in the skin. The origin is the same for all types from the fibroblast. Between the cells there is present invariably a delicate reticulum, probably composed of collagen, which is absent in epitheliomata. The tumors are all vascular. 2. The lymphoid-celled class is unique. In lymphatic leukemia, Hodgkin's disease, and lymphoma, the cells are all of one type and transition states from one to the other exist. There is no intercellular substance as a product of new cells. There are no vessels ramifying between them and the pre-existent tissue does not melt away before their advance. So far as the skin is concerned, these disorders give rise to true tumor formation, and this may be asserted also of myelogenous leukemia. This class is not related histogenetically to either of the other two. 3. Sarcoid tumors are undoubtedly all fibroblastic in origin, but two of them are probably granulomas of undiscovered source. These are granuloma fungoides and sarcomatosis and with them should be classed Boeck's sarcoid as a granuloma. Modern histologists regard idiopathic sarcoma as having the same character, but it closely approaches sarcoma on one side and endothelioma on the other. The reticulum is present here as in sarcoma and productive inflammations, but these tumors do not metastasize and—except granuloma fungoides—are curable by arsenic. Perhaps the spindle-celled sarcoma, which disappears under the same treatment, is a near relative to Kaposi's sarcoma, so that a transition may be traced by easy and well-known steps from the most malignant of neoplasms to benign tumors, hardly distinguishable from granuloma, a class of infective, generally productive neoplasms, as lymphoid tumors shade from lymphoma through lymphemia to inflammatory hyperplasia. It will be interesting to see whether an infectious agent is ever discovered for fibroblastic sarcoma, or whether a sharp line is to be drawn through the sarcoid group between it and granuloma.

56. **Urine Examination in Male Sexual Disorders.**—Heitzman insists on the importance of urine examination in this class of cases, though they have hitherto been considered as generally of slight importance. Their field of usefulness must necessarily be limited, but in diseases of the prostate, vesicles, and ducts, as well as the urethra, the microscope will often enough determine the exact conditions and will lead to more careful examination of the patient. Inflammations, even if mild, whether acute or chronic, suppuration, ulceration, as well as tumors are all to be recognized and their exact location determined. Thus he mentions the cuboidal epithelia of the prostate gland, while its ducts are lined with columnar epithelia, similar to the columnar epithelia in the seminal vesicles, but not so studded with pigment granules, while the ejaculatory ducts are lined by columnar ciliated epithelia. The smallest cuboidal epithelia in the male genital tracts are those from the prostate; the only ones for which they may be mistaken are those of the ureter, but the columnar epithelia from the ducts will easily clear up the diagnosis. Prostatitis is a more common disorder than is supposed, but the presence of red blood corpuscles will lead to the diagnosis. In the chronic form the red blood corpuscles are either entirely absent or scanty, while pus corpuscles are present in moderate numbers and both these and the epithelia are studded with small, highly glistening, refracting granules or globules, never found in acute cases. In abscess, the finding of connective tissue shreds is important; without these the diagnosis can not be made. They are easily distinguished from mucous-threads, which are pale, more or less regular, and may often run parallel for a considerable distance, while the connective tissue shreds are fibrinous and frequently finely granular. Hypertrophy of the prostate gland may be diagnosed in many cases from urine examinations, viz., the evidence of chronic prostatitis, and malignant tumors when they occur can also be determined by their peculiar epithelial castings. The diagnosis of vesiculitis is also of importance and the most characteristic changes are in the spermatozoa, some of these have the normal appearance, while in others the heads become larger, round and granular, having almost the appearance of pus corpuscles with tails. For examination, only the complete ones are valuable, since broken-off heads may easily lead to errors in diagnosis. Prostatic epithelia are always seen, and mucous-threads and cylindroids may be numerous. In urethritis microscopic examination of the urine is not as important as in the conditions just described, though the symptoms may be so slight as to render such examination important. The presence of so-called gleet-threads is significant, as is also that of urethral epithelia, varying in amount with the intensity of the inflammation. In the mild superficial inflammations only the flat cells are seen, while in the deep-seated lesions, such as ulcerations, the irregular cuboidal and columnar forms are present. Ulceration also is characterized by connective tissue shreds surrounded by zooglea masses and epithelia from the deeper layers with red blood globules. When the columnar epithelia are quite abundant and endogenous, new forms may be found in either the epithelia of the urethra, the prostate gland or the bladder, according to the seat of stricture.

57. **Inversion of the Tunica Vaginalis for Hydrocele.**—Greene recommends this operation, giving Winkelman's description of the procedure—incision down to the sac and incision of the sac 3 to 4 cm. long from above downward, more toward the upper than the lower pole. After the hydrocele fluid has escaped the testicle is drawn completely out so that the entire tunica vaginalis is seen. The incision of the tunica then comes in relation with the insertion of the spermatic cord into the testis, which incision may be shortened by a suture or two so that the testicle can not return through the opening. The tunica and testicle are replaced in the scrotum with the result that the entire serous surface of the tunica vaginalis faces outward toward the loose connective tissue, with which it may soon become fused, the testicle lying outside the tunica, between it and the scrotal wall. The operation is completed by closure of the external wound, and in the majority of cases the testicle is dislocated upward as a result of the operation. He concludes as follows: "1, that this is an easy operation to perform, and that it results in the cure of the hydrocele seems undoubtedly true; 2, the fact of so many operations having been recorded with the history of no unfavorable result as regards suppuration or neuralgia of the testis offers pretty conclusive evidence as to the safety of this operation from the above complications, and 3, the effect it may have in causing atrophy of the testicle or changes in the function of that organ is a subject concerning which clinical data, extending

over a long period of time, are necessary before final conclusions can be drawn."

61. **Fractures.**—The present treatment of fractures, according to Cannon, is *traditional rather than rational*. We should rid ourselves of the idea of immobilization. No pains should be spared to obtain perfect apposition of the fractured ends, but a moderate displacement, if it is not rotary, does not necessarily impair function. We should endeavor to prevent adhesion of the soft parts to the callus by allowing the patient free movement of the joints above and below the point of fracture as early as possible. Any splint will do for the first dressing that will give support and comfort, provided it is light and simple, without mechanical contrivances. The first dressing should be well padded and lightly bandaged. Complete immobilization of the fractured ends is not possible, and a limited movement facilitates union. The limb should be redressed two or three times the first week to attend to blebs, etc. After eight to twelve days the primary swelling will have sufficiently subsided for permanent dressing. After perfecting the adjustment, apply plaster bandages smoothly laid on over a generous layer of cotton, for leg fracture from toe to knee; for the lower half of the thigh the dressing should extend to the perineum, the cast being as light as possible with strength. After ten to twelve hours it will be hardened and if without crack or flaw, have the patient sit up in bed until he gains his equilibrium. Then he should be supplied with a pair of good crutches, and have the shoe heel on the well foot somewhat raised. He should then be instructed to move about the room at will until the foot swells so as to become painful. After two or three days, the tendency to swell is not great, and quite free exercise may be permitted. Four weeks after the application of the cast remove it and firm bone union will nearly always be found. While the patient may not have much confidence in his slim-looking "prop," in a few hours it will appear much more substantial. Bathing in hot water with much rubbing is now useful for the circulation and flexibility of the joints. After sixty or seventy-five days from date of injury the patient can return to his usual employment.

62. **Local Anasthesia.**—Wishard believes in the use of local anesthesia in genito-urinary operations, such as circumcision, for which, however, it is not applicable in young children and in some cases of excessive adhesions in adults. In shortening the scrotum, in varicocele, in stricture operations, and in perineal section he considers it of the greatest practical value.

63. **Gastric Cancer.**—After a review of the symptoms and diagnosis, Graham concludes that there is no pathognomonic symptom. We must consider carefully all the circumstances of the case to make a proper diagnosis. Experience in handling the cases has not as yet been superseded by ready-made tests that make a diagnosis for us.

77. **Prevention of Tuberculosis.**—The ideas conveyed in Long's article are the contagiousness of consumption and its prevention. Its mortality makes its prophylaxis the most important question before the medical profession of the day; therefore, legal enactment should require the reporting of all cases to the health authorities who should be authorized to inspect them and supervise their control and to compel all inmates of the infected house to have their sputa examined by the city bacteriologist. Societies for the prevention of consumption similar to the one now existing in Philadelphia should be formed to interest the public in and educate it upon this important question. All cases well advanced should be placed in suitable hospitals, if they are not so situated as to avoid infecting others at home. Finally, all patients with consumption detected in its incipiency should be urged to go to a favorable climate and colonies should be established, ultimately by the state, where those who have no means can be employed at outdoor work to maintain themselves under rigid medical supervision.

85. **Diseases of Pregnancy.**—The disorders here mentioned are insanity, of which a case is reported, constipation, dysentery, nausea and vomiting, ovarian and mammary abscess and vulvar edema. As regards the first of these, Campbell thinks that while the asylum is probably the best place, often an even-tempered nurse of good disposition for a constant companion and building-up of the system will effect a cure. As regards constipation she insists on the importance of keeping the bowels freely open. Dysentery appears sometimes to come on in epidemics among pregnant women and when it first appears during the last month it is almost useless to try to control it. She has had some serious cases of dysentery complicating pregnancy in Oklahoma and thinks that the surroundings are probably the causative factor. She reports cases of abscess of the ovary, mammary abscess and edema of the vulva.

94. This article has appeared elsewhere. See The Journal, xxxvi, p. 1606.

95. Ibid., p. 1611.

105. **Aural Pain.**—The causes of aural pain are noticed, and the failure of routine methods remarked upon by Beaudoux. He thinks that in the ordinary cases accurate diagnosis of the existing condition, whether due to inflammatory myringitis, acute or chronic, etc., should be noted. One common form of earache is due to alveolar periostitis or dental caries, and its diagnosis must necessarily be by the exclusion of purely aural causes, and the conditions of the mouth. Where necessary, drainage through the Eustachian tube or tympanic membrane, evacuation of the tympanum by gentle Politzerization, rest of the parts, prompt removal of the cause, and attention to the nose and throat are the first steps to be attended to. The neuralgias and otalgias should be treated locally or constitutionally. Ethyl chlorid sprayed in the front or back of the auricle or in the external meatus, and oil of peppermint, are often useful as a local treatment, while the constitutional treatments for neuralgia should be employed.

113. **Prophylaxis of Insanity.**—Young says the first method to prevent the increase of insanity should not be in the regulation of marriage or of unsexing persons whose mental infirmity is traceable to or aggravated by sexual abuses. The only method he says is education from the child up, avoidance of over-pressure in education, the disuse of all nerve stimulants, and a healthy mode of life.

116. **Dental Irregularities.**—The causes of jaw deformities are noticed by Talbot, including the hereditary intra-uterine conditions, etc.; but one of the great factors, he says, is extraction of temporary and permanent teeth. The early removal of the teeth before the jaws have developed tends to degeneracy of the jaw, which is a regular condition of civilization, increasing from the East westward in Europe and most frequent among English-speaking and amongst the Scandinavian races. The struggle for existence between the organs dependent on race, evolution, etc., has resulted in the higher races in the triumph of the brain and skull at the expense of the face. The higher the intellectuality the greater the degeneration of the face, jaws and teeth.

119. **Infantile Diarrhea.**—Booker's article is a summary of the literature of cholera infantum up to the fourth decade of the last century, quite full in its details and of interest from a historic point of view.

120. See abstract in The Journal, xxxvi, p. 1805.

121. Ibid., p. 1413.

FOREIGN.

British Medical Journal, July 6.

Our Duty to the Consumptive Bread-earner. J. Burdon-Sanderson.—The condition of the destitute consumptive and what should be done with him is discussed by Burdon-Sanderson. He calls attention to the importance of prompt admission to some sort of institution where his condition can be treated, and the selection of suitable cases for such, the relation between poverty and the prevalence of phthisis and the beneficial influence of sanatoria. The essential conditions of success in these institutions are the choice of suitable sites, the maintenance of suitable buildings and the selection of suitable cases, their prompt admission together with their medical treatment and regime, and finally the medical supervision of cases after their discharge. Of course, all these things would cost an immense amount in England. The most feasible mode of meeting the requirement seems to him to be that employers of labor should consent to levy upon themselves a contribution of which the amount would be proportional to and deducible in whole or in part from the wages paid to their workmen. Within its scope that would give equal or greater advantage to the insured than would compulsory insurance as practiced in Germany, but instead of being universal it would exclude the very poorest class, who should be chiefly benefited. Still it may be the best that can be done and he leaves the matter with the profession and calls their attention to the facts.

The Arrest of Pulmonary Tuberculosis. C. Theodore Williams.—The various methods of the arrest of pulmonary tuberculosis are described by Williams, who notices first the quiescent tubercle in the form of caseous masses containing tubercle bacilli which are often found in the lung. Miliary tubercle is sometimes converted into fibroid tissue, but with the caseous masses fresh local infection is quite possible and intelligible. Another form of arrest is that tubercular nodules become obsolescent, surrounded by chronic localized emphysema, which prevents the detection of tubercle by physical signs. This is one of the commonest endings of tubercles, the owner of the lungs which have gone through this process is generally a short-breathed individual with a large motionless chest, and is credited with being asthmatic. Many such eventually perish from an attack of hemoptysis through the cracking of some degenerated vessel exposed in the old cavity or the bursting of a small pulmonary aneurysm. The third form of arrest mentioned by him is contraction of the cavity and increase of fibrosis, causing shrinking of the whole lung; the walls of the cavity approximate and sometimes become obliterated by cicatrization, though this is rare. Calcareous degeneration is sometimes observed and undoubtedly indicates obsolescence of tubercle, but is found oftener in the bronchial glands than in the lung tissue itself. Calcareous expectoration of itself must not be accepted as proof of arrested tuberculosis, for active disease may be going on in other parts. Still we sometimes find large calcareous deposits in postmortems, indicating old arrested tuberculosis. As regards the clinical aspects of arrested phthisis he says there are many young men and women who have a history of phthisical symptoms that have disappeared and they seem to do well, especially in high altitudes. Nevertheless in these cases even many years of absolute immunity is not an absolute security from relapse. Some authorities perhaps would regard these relapsed cases as instances of fresh infection, but they show constitutional liability even then. When fibrosis is extensive and firm, as in one case reported, there is not much danger of their breaking down, but such patients are greatly disturbed by shortness of breath and phthisical matter, or latent tuberculosis may still remain in the parts not involved in the extreme fibrinous condition. He, therefore, concludes that the permanent arrest of tuberculosis is not a simple matter, but it is surrounded by many difficulties and one is tempted to imitate Solon's famous dictum and say: Pronounce no case one of arrested tuberculosis till you have seen the necropsy. There is, no question, however, but that there are many cases of real arrest as shown by autopsies of patients that have died of other diseases and a distinction is not always made between general and local arrest, which is very important. He doubts the propriety of using the term "cured," in many cases; arrest is a more appropriate term. This should only be applied when all general symptoms have ceased: when cough, expectoration, night sweats, wasting and physical signs are absent altogether; or in the case of former cavities, when signs of consolidation or contracted cavity have replaced those of the active disease.

The Lancet, July 6.

The Practical Points in the Treatment of Threatened Asphyxia. Robert L. Bowles.—The occurrence of stertor in disease is considered a danger signal by the clinician and becomes the chief subject of this third lecture of Bowles. He describes the forms and characteristics, recognizing two conditions of palatine stertor, and the pharyngeal type, and what may be named mucous stertor dependent upon the presence of mucus in the bronchial tube. He reports cases and offers the following general conclusions: "1. That a 'laryngeal stertor' may be added to the three forms formerly defined. 2. That the three forms of stertor which have a most important connection with the apoplectic state are the palatine, the pharyngeal and the mucous stertor. 3. That these three varieties, whatever their remote cause, are the immediate result of a local mechanical condition—a condition which may always and at once be changed to the great relief of the patients and sometimes to their permanent recovery. 4. That it is necessary to keep the patient on one side, that that side should not be changed, and that the paralyzed side should be downwards. 5. That mucus and other fluids gravitate into and fill up the lower lung; and that therefore if the sides be reversed the mucus will find its way into the opposite lung. 6. That the fluid, crossing from the large bronchi of one lung to those of the opposite, becomes churned into foam and causes dangerous obstruction to the respiration. 7. That the lung, by remaining inactive and filled with mucus, for a long period, is not injured. 8. That these principles apply to all conditions allied to the apoplectic, whether there be mucus or not."

A Contribution to the Pathogenesis of Cancer. John Marnoch.—The author has experimented with the transposition of epithelial tissue into other tissues, especially those of mesoblastic origin and various cavities of the body, to ascertain whether Kaufmann's experiments can be confirmed. His experiments are reported, and he finds that the epithelial tissue dies quite irrespective of the skin being entirely separated from its natural surrounding and blood supply or whether the blood supply is still continued. There seems to be an antagonism in the results of these experiments and those of Kaufmann, and he suggests that possibly the use of cock's comb or wattle by the latter may have something to do with it—it may possess greater vitality than ordinary epidermis. He notices also the experiments of Lack and Plimmer, and does not account for them, but thinks that they should be further repeated, and successfully, to be convincing.

The Practitioner, July.

On the International Relations in the Prevention of Tuberculosis. Hermann Weber.—Weber pleads for general international co-operation in the control of phthisis, and offers recommendations. He thinks there should be numerous sanatoriums in all countries independent of private charity and supported by the state. There should also be in every country an international board of health with a special anti-tuberculosis department, and an international anti-tuberculosis commission watching over the carrying out of international duties against the spread of tuberculosis and efforts for the ultimate extinction of the disease.

Should the State Undertake the Prevention and Treatment of Consumption? Nathan Raw.—The benefits of sanatorium treatment are first noticed by Raw, who calls attention to the work that is being done in other countries and quotes the resolution passed in the Canadian Tuberculosis Conference, crediting one-fifth of the deaths in the Dominion to tuberculosis, as evidence of the appreciation of the importance of the subject. He offers the following suggestions: 1. That a short bill should be introduced in Parliament authorizing county councils, municipalities, district and urban councils for the erection of sanatoria. 2. That the local government boards should directly undertake the inspection of all public offices and insist on the removal of all consumptive employes to sanatoria, to be kept there at the expense of the government if unable to pay themselves. 3. That all factories, workshops, workrooms, and offices should be carefully inspected by the government inspectors as to their sanitary and hygienic condition and all cases of consumption among the employes removed to proper sanatoria at the expense of the municipality if their means do not suffice. 4. That the local board of health should insist upon all cases of consumption in public institutions, such as prisons, barracks, workhouses, reformatories, asylums, orphanages, schools, boarding houses, and hospitals, being isolated in separate wards or building so as not to be a danger to others and that they should receive as far as possible the benefit of open-air treatment. 5. The government should give every encouragement to the local health authorities to appoint special inspectors for dairies, milkshops, and abattoirs, to insure that only non-tuberculous meat and milk are sold. 6. That tuberculosis should be included among the list of infectious diseases, but only to be voluntarily notifiable and that a special code of rules and regulations should be drawn up for the guidance of the health authorities. By-laws should be drawn up by the local authorities in regard to spitting in public places and leaflets be distributed free of charge to the public setting forth the dangers of the disease. He concludes his article with a postscript endorsing the action of the United States Government in excluding tuberculous immigrants.

The Notification of Phthisis Pulmonalis. ARTHUR NEWSHOLME.—The author believes in the compulsory notification of tuberculosis, believing it would be more complete and thorough and would remove the ethical scruples that practitioners feel in voluntary notification, and would have numerous advantages in other obvious ways.

A Personal Experience of "Galloping Consumption." R. MANDER SMYTH.—The author gives a graphic account of his own experience under the Nordrach treatment when in the state of very advanced and galloping phthisis, from which he apparently completely recovered.

The Diagnosis of Tubercular Disease of the Lungs by Means of the Roentgen Rays. E. CLIFFORD BEALE and HUGH WALSHAM.—This article is fully illustrated, showing the use and advantages of the skiagraphic methods in diagnosis of pulmonary phthisis. They do not, however, indicate that it is of value in the earliest conditions, but it would appear that a certain amount of tubercle aggregation must take place before a perceptible shadow is caused. They are useful, therefore, where definite deposits occur, but absence of such shadow must not be considered as positive evidence of the absence of tubercular lesions.

The Early Diagnosis of Pulmonary Tuberculosis. J. J. PERKINS.—The importance of the early diagnosis of tuberculosis is dwelt upon by Perkins, who notices that in many cases it may occur in the sudden, acute form, so that patients can often tell the day on which they fell ill. The special signs of importance noticed are tachycardia, hyperesthesia over the affected apex in the early stages, and initial hemoptysis occurring before physical signs are present, probably due to a very small focus in relation to the wall of the vessels. He thinks the symptom is underestimated. According to his views, hemoptysis in almost every case is a pathognomonic sign of tuberculosis. Pleurisy, he holds, is always tuberculous.

Tubercular Infection Through the Air-Passages. ST. CLAIR THOMSON.—The points of attack of phthisis are noticed. Thomson calls attention, as a special place for suspicion, that ring of lymphoid tissue surrounding the naso-pharynx, the tonsils. The commonest mode of infection, he thinks, is by inhalation and that the inhaled bacillus has infected the system before the air current has reached the larynx, most probably through the lymphoid tissue of the naso-pharynx and pharynx. There appears to him to be no justification for the generally accepted idea that the bacillus is inhaled directly into the pulmonary alveoli.

Tuberculosis in Childhood. GEORGE F. STILL.—Still holds views similar to Thomson as regards the commonest cause of tuberculosis being by inhalation. He holds that the idea that milk infection is chiefly responsible for the heavy incidence of tuberculosis is unclinical. He points out the difference in the condition as it occurs in children and in adults, due to some extent, he holds, to the frequency of caseation of mediastinal glands.

The Surgical Treatment of Tubercular Disease. ALBERT CARLESS.—This is a lengthy paper dealing with the treatment of tuberculosis by surgical methods, but the various conservative methods are mentioned: the cinnamic acid treatment, on which his conclusion is unfavorable, and the tuberculin treatment, which he thinks is defunct as a treatment at least in the surgical cases. The tubercular condition of various organs and their management are noticed in detail. He does not mention some methods that have been used in this country, like the Murphy gas injection.

Some Tuberculous Affections of the Nervous System. FREDERICK E. BATTEN.—Tubercular neuritis is the principal subject discussed by this author, who notices the question whether it is due primarily to some toxic or some concomitant condition. As regards the first he thinks the solution is not yet possible, but as regards any further infection in addition to tubercle being the cause of neuritis, he calls particular attention to the action of alcohol which is frequently given in cases of advanced phthisis as being a possible factor.

Zomotherapy in Phthisis. LEONARD ROBINSON.—The findings of Robin and Binet in regard to the respiratory change in phthisis are noticed, and the deductions of Robin that remedies used to diminish its exaggeration, including cod-liver oil, cacodylate of sodium, and raw meat are indicated, in addition to the rest and fresh-air treatment. This latter, raw meat and serum, is specially considered and the experience of Richet and Hericourt with this so-called zomotherapy. This is not a method of hyper-alimentation, for in the amount of meat juice used the quantity of albuminoids is almost negligible. Cooked meats given in similar quantities act as a toxic substance and rather favor the tubercular process. The success of zomotherapy seems to be a question of dose; it depends upon a minimum ratio between the weight of the patient and the quantity of muscle juice or raw meat taken. Below this minimum limit, amelioration is possible, but a cure must not be expected. He gives in an addendum the formula of the treatment drawn up by Hericourt.

Gazette de Gynecologie (Paris), May.

Phosphoric Acid in Dyspepsia and Neurasthenia.—Worry, grief or any over-exertion of the nervous system causes an exaggerated elimination of phosphoric acid, entailing in time neurasthenic cachexia. Besides this primary neurasthenia, which is always first manifested in the acidity of the urine, the nerve cell may lose its phosphorus from some physical, debilitating cause, usually the defective functioning of the gastro-hepatic apparatus. The missing phosphorus must be supplied and Joulie prescribes for this purpose a diurnal 12 drops of medicinal phosphoric acid; Bardet prefers a lemonade made of 28 gm. of medicinal phosphoric acid; 29 gm. of extract of orange and 250 gm. simple syrup, with water to make one liter. Another formula less styptic and acid, is white of egg, 60 gm.; phosphoric acid, 58 gm., and water to make 400 c.c. Boil until completely dissolved and add extract of orange 20 gm., syrup 400 gm. and water to make one liter. Dose 10 to 15 teaspoonfuls in water during meals. Phosphoric acid deserves an important place in the treatment of dyspepsia. It has the advantage over other acids that it supplies a substance needed in the organism and repairs losses. Its laxative action, however, contra-indicates it in diarrhea or chronic enteritis.

Tubercular Abscess of the Mamma. PLUYETTE.—More than 40 cases of this affection have been published. In the personal case described, the patient, a young woman, noticed that her breast had tripled in size one and one-half months after a slight traumatism with erosion. There was no adenopathy, no retraction of the nipple, no local temperature, distinct redness nor cutaneous edema. The parenchyma of the gland was found almost completely destroyed and the cold abscess was encapsulated in a thick membrane lined with miliary tubercles. Complete recovery, to date, twenty months after extirpation. Two other patients were well, nine months and three years afterward, respectively, when published. A number have died from recurrence on the same, or the other side. In one case the abscess developed eight days after the primary trauma.

June.

Irrigation With Gelatinized Serum in Gynecology.—LAFOND-GRELLETY.—The Auvard curette allows the passage of a fluid through it and a solution of 10 per cent. gelatin and 1 per cent. carbolic acid, at 37 C. will disinfect the surface as it is curetted and will also prevent hemorrhage. The slow, continuous irrigation thus obtained does not obstruct the already limited field of operation in gynecologic maneuvers. It arrests and diminishes the frequency of hemorrhages in inoperable tumors and relieves the pain temporarily at least. It is well to conclude the operation with a stronger stream of the fluid to wash away detritus.

Presse Medicale (Paris), June 22.

Spasmodic Constipation. A. Mazeran.—Constipation from spasmodic contraction of the large intestine requires entirely different treatment from constipation due to intestinal atony. It is a distinctly neuropathic affection, the result of diminished nerve force. It differs from constipation due to atony by its prevalence in women; the influence of emotions, brain work, responsibilities, etc., on its production and exacerbations, the lack of dyspeptic antecedents and its variability and absolute irregularity, and its absence of connection with the diet. The abdomen is liable to be tympanitic, sensitive. irregularly painful, with peristaltic waves, abdominal hypertension, and bunches and pseudo-tumors from the contractions. It is difficult to detect fecal matter by palpation. False desires to defecate are experienced. The constipation is exaggerated before menstruation and diminished after it is once established, which is the exact reverse of the condition observed in constipation from atony. The feces are flat or in tiny balls, covered with dried mucus. Flatus is rare and odorless. There are frequently organic spasms and reflexes corroborating the neuropathic origin, gastric hiccough and constriction of the chest. Rectal enemata are sometimes introduced with great difficulty and frequently are retained, causing colic. Medication should be antispasmodic, both local and general, with adjuvants of various kinds to restore tone to the nervous system. Belladonna heads the list under the first indication. Even a small dose, 1 or 2 cg. in a pill or suppository, may prove effective. Asafetida, zinc valerianate and laudanum are also valuable, combined with warm sitz baths, compresses and rectal irrigation—all between 33 and 36 C., with very light massage and measures to strengthen the nervous system and the general health. All depressants. such as the bromids, must be avoided, with alcohol. hot drinks, spiced foods, etc. Purgatives are contra-indicated, but a mild laxative is required during the exacerbations of the constipation. A good combination is 1 or 2 cg. of belladonna, followed in an hour by a teaspoonful of castor oil or 40 cg. of cascara sagrada. The treatment should be completed by a course of tonic-sedative waters.

June 26.

Exploratory Incision in Doubtful Tumors. Quenu.—When a doubtful tumor has acquired the characteristics of malignity, it is inoperable. It should be extirpated while still in the benign stage. Quenu makes a practice of incising all doubtful, operable tumors, in order to determine their nature, proceeding to their ablation if found necessary. He disapproves of specific treatment in cases of doubtful tumors of the mamma, believing that valuable time is wasted on this differentiating measure, while an exploratory incision answers the same purpose and allows the removal of a malignant growth in its incipiency.

Medical Practice in China.—E. Jeanselme.—Among other points of interest in this communication, based on several years of experience in the far East, we note that Chinese barbers massage their customers before proceeding to shave them, and that all classes appreciate the refreshing effect of sponging the body with cloths dipped in very hot water. During an interlude in grand banquets the guests wipe their faces with hot water in the same way. Medical practice is the same as it was centuries ago. The tyranny of routine is so excessive that it has suppressed not only progress but the fluctuations of fashion. Medicine, like the clothes, the laws and beliefs, has become immutable. Whenever the Chinese rouse and break with their superannuated traditions they will undoubtedly proceed with rapid strides. They readily appreciate all that is concrete. Profoundly materialistic, they are supremely interested in all that affects their welfare and their health, and Jeanselme believes that when the time comes, the Chinese may not only copy and assimilate our methods but improve upon them. Chinese physicians have already empirically learned to understand syphilis, its hereditary tendency to the third generation and the necessity of treating it with mercury "until the gums bleed." They combine it with ten other ingredients, and the pills are wrapped in a piece of banana to prevent injuring the teeth. The person making the pills must also hold water in his mouth, for the same purpose.

June 29.

Primary Cancer of the Large Bronchi. D. Merklen.—An epithelioma developing in the left bronchus in a dyer, 45 years of age, caused dyspnea, a cough and hoarseness as the first symptoms of its presence, accompanied by blood-stained expectoration. Later there were attacks of suffocation. The diagnosis of constriction of the larynx or trachea was excluded by the indications of compression in the mediastinum and the respiratory silence, betraying the impermeability of the lung owing to the bronchial obstruction, and the accumulation of mucous secretions in the dilated bronchi below the primary tumor. It it generally accompanied by bronchitis, infiltration of the parenchyma of the lungs by secondary cancerous nodules, and sclerous thickening of the pleura, causing dullness with or without exaggeration of the vocal vibrations.

Progres Medical (Paris), June 29.

Food for Idiot Children. Bourneville.—Two cases of fulminating hematemesis in consequence of swallowing bones, induce Bourneville to emphasize once more the necessity of strict supervision over the food of idiot children, that such accidents may not occur.

Centralblatt f. Chirurgie (Leipsic), June 6.

Topography of the Appendix Vermiformis. P. Mueller.—It is easy to locate the appendix, even in the midst of adhesions, exudates and perplexing lesions, if it is borne in mind that the root of the appendix is invariably at the point where the three teniæ, passing downward from the colon, meet at the cecum. This point varies in different individuals, but it is readily located by following the tenia libera downward to the cecum.

Centralblatt f. d. Grenzgebiete d. Med. u. Chir. (Jena), June 8.

Death from Burns. Eyff.—Reviewing the various hypotheses that have been advanced to explain death during the first few hours after a burn, Eyff concludes that none of them explains all the phenomena observed. The theory of rapid alterations in the blood seems the most plausible, as clinical and experimental research have demonstrated that the cellular elements of the blood and the red corpuscles in particular, are rapidly destroyed after a burn, forming extensive thromboses, with secondary alteration in the parenchyma of various organs. The consequent shock may result from the rapid development of ptomains supplementing the suspension of the functions of vital organs by these alterations in the red corpuscles.

June 18.

Typhoid Affections of the Bones and Joints. C. Hoedlmoser.—Since Hubener's article on this subject appeared in 1895, there have been more than sixty-seven communications published, and all are reviewed in this critical summary of the surgical sequels of typhoid fever. The prognosis depends on the strength of the patient, but in general it is favorable, although cases of mixed infection have been known to prove fatal. As soon as an abscess has formed it should be evacuated and early, energetic treatment is usually followed by a rapid cure. Trauma favors the development of these affections. Tapie states that a protracted expectant treatment is indicated in the non-suppurative cases. In one of his patients complete recovery was observed after a year's course. He recommends the application of cold and resolvents. Clarke has reported a case of post-typhoid periostitis of one phalanx in a boy cured by antistreptococcus serum after the failure of other treatment. He is convinced that there was no streptococcus infection in this patient. The tibia seems to be most frequently affected, in some statistics in 87 per cent., in others in 50 out of 103 cases, with suppuration in 34; the ribs in 29 per cent., the femur in 23. In 38 of the 103 cases mentioned several bones were affected. In Catrin's case the affection appeared first in the right elbow, then in the finger, with pain in one scapula and clavicle, then in both tibiæ, and finally periosteal swelling and suppuration of the right tibia, lasting for a long time. Tuffier found the typhoid bacillus in a suppurating tibia sixteen months later. The protracted, comparatively mild course distinguishes post-typhoid bone-processes in general. Mixed infection is probably the cause of the formation of sequestra. As a rule, these post-typhoid affections appear during convalescence, but Sultan has observed a case in which the abscess appeared six years after the typhoid fever and pure cultures were derived from the pus. The more severe cases of typhoid fever, with a lingering convalescence, seem to be most liable to consecutive bone lesions. The young are most frequently affected. Wurtz states that 46 of 68 patients were under 25, and Bourgeois, 44 out of 52. Such lesions have occurred, however, in patients 60 to 70 years of age. Wurtz witnessed a severe necrosis of the sternum at the height of the febrile process in a boy between 8 and 9. The frequency of osteomyelitis or periostitis consecutive to typhoid fever, was 48 cases in the 6563 cases reviewed, but some were due to the staphylococcus. Keen found preceding typhoid in 39 out of 50 cases of affections of the bones consecutive to a severe febrile infection. Articular rheumatism may develop with the clinical picture of typhoid fever or may complicate it, and typhoid may simulate or complicate rheumatism. Sodium salicylate is useful in differentiating them. Robin and Pribram distinguish four varieties of this borderland typhoid: 1, arthrotyphoid fever, commencing with pains and swelling in the joints followed by the typical symptoms of typhoid fever; 2, suppurative inflammation of the joints in the later stages of typhoid fever, due to typhoid or mixed infection; 3, pseudo-rheumatism with typhoid conditions, localization in the joints with serious general symptoms, and 4, true rheumatic polyarthritis with typhoid conditions, that is, with high fever and delirium. The joint affections during convalescence from typhoid are much more frequent than the above and the suppurative form is 'most usual.' Keen distinguishes a rheumatic, a septic and an essential typhoid form of joint complication. It is usually localized in the hip joint.

Frauenarzt (Leipsic), June.

Hypnosis in Therapeutics. FREUDENBERG.—Treatment of patients with hypnosis or suggestion is not a scientific toy but an actual science which has already reached a high stage in its development. The influence of the mind on the vasomotors, that is, on the nerves that determine arterial tension, is a fact beyond question to-day, and the physician should not hesitate to utilize this science when other means fail. As vasomotor disturbances are the chief element in gynecologic affections, suggestion may prove a valuable therapeutic measure in these cases, which are so often rebellious to medical means. Freudenberg cites several recent cases of miracle cures, and regrets that the physician first in charge of the case had neglected to utilize suggestion which might have proved as successful in his hands as in those of the miracle-worker. He describes an interesting personal case, a teacher whose intense dysmenorrhea incapacitated her for several days every month, seriously interfering with her profession. Nothing pathologic or hysterical could be discovered, and as it was a question of morphin or suggestion during hypnosis, Freudenberg ventured on the latter. She was influenced in profound hypnosis and amnesia of the suggestion commanded. A lasting impression was induced in the third seance and since that time the menses have recurred without pain and normal in every respect.

Miteilungen a. d. Grenzgebiete d. Med. u. Chir. (Jena), viii, 1 and 2.

Curability of Tubercular Peritonitis without Operation. W. ROSE.—In fifty-one cases of tubercular peritonitis, one-third recovered without surgical intervention, while the statistics of operative treatment claim but one-fourth cured. Of the patients between 14 and 20, 7 recovered and 7 died; between 21 to 30, 5 recovered and 7 died; between 31 to 40, 1 recovered and 13 died; between 41 to 50, 3 recovered and 3 died, and between 51 to 70, none recovered and 4 died. Of the male patients, 70 per cent. died and of the 20 women 65 per cent. There were no tubercular antecedents in half of the cases and the mortality with such antecedents was 76 per cent. There were 11 cases of the tumor variety; 36 per cent. recovered; 18 of the ascitic variety with 33 per cent. of recoveries, and 21 of a mixed form with 29 per cent. recoveries. Of the 18 acute cases, 50 per cent. recovered; of the 13 subacute cases, 31 per cent. recovered, and of the 19 with an insidious course, only 16 per cent. terminated favorably. The duration of the cured cases was five months to one and one-third years. The fatal termination occurred in 71 per cent. in less than a year after the first symptoms; in the remainder after two, four and five years. If the peritonitis does not heal in one and one-half to two years there is little prospect of recovery. Most of the patients recovered spontaneously without special treatment. Rest with good air and food seem to be all that is necessary. As the patients are usually free from pulmonary complications and have no sputum there is little if any danger of infection from them. The most rapid recovery occurred in two patients who were able to live at a sanatorium. The diuretics were found capricious in their action. The most satisfactory were 20 cg. calomel three times a day and 3 *gm.* theobromin, supplemented by saline baths three times a week or a course at a spa. Rose recommends these baths in every case of serous tuberculosis. His article is based on 69 cases at Naunyn's clinic and 2 in private practice. Nine died, 4 were operated on and 11 were lost sight of. Sixteen or 31 per cent. of the remaining 51 cases have recovered; 34 or 67 per cent. died and 1 is apparently in *statu quo*.

Four have been permanently cured for one to two years; 13 for two to ten years. The fibrous variety, with or without effusion, seems to recover as frequently without as with an operation.

Aid to Diagnosis of Infection of the Biliary Passages. F. PICK.—As a contribution to the solution of the question whether it is possible to determine severe infection of the biliary passages by the leucocytosis, Pick describes the case of a woman 49 years of age who in the course of six months had forty-six periodical attacks of chills and fever to 40 C., lasting for eight to eighteen hours, sometimes with and sometimes without pain, icterus and enlargement of the liver. The symptoms indicated intermittent bile fever with a pyemic process, but during the first two months the leucocytes numbered only 4400 to 7000. Later, a leucocytosis of 23,300 was observed during the febrile attacks, falling to 7000 or 9000 the next day. The autopsy disclosed a gall-stone impacted at the outlet of the common bile duct; the biliary passages very much dilated and filled with an abundant, tenacious, glassy mucus, sown with fine white flakes in which bacilli resembling the colon bacillus were found. No suppurative focus could be discovered anywhere in the body. The findings in a second similar case were almost the same. Pick queries whether it is possible that the absence of leucocytosis at first and during the intervals may serve to determine the absence of suppurative processes in other affections of the biliary passages. The gradual increase in the leucocytosis may have been due to the progressive loss of the protective functions of the liver against the toxins generated in the biliary passages, thus allowing the toxins in the circulation greater chemotactic power. The attacks grew less violent and the fever did not rise above 38 C. during the last six weeks—this suggests that the bacilli may have grown less virulent. Experimentation on animals has shown that attenuated cultures induce leucocytosis, while the animal succumbs without leucocytosis to the inoculation of virulent cultures.

Monatsheft f. Prakt. Derm. (Hamburg), May 15.

Disinfection of the Hands from the Dermatologist's Point of View. P. G. UNNA.—A single pyogenic coccus is of infinitely more importance to the patient during an operation than an army of saprophytes, and consequently every suppurative lesion on a surgeon's hand must be not only disinfected but thoroughly and persistently treated until long healed. Disinfection is less important than the after-treatment of the surgeon's hands in case of any morbid process. Alcohol is a harmless and effective disinfectant and its bactericidal power might be enhanced by adding the tincture of benzoin or benzoic acid. The alcohol, however, is not fully effective unless it is kept in contact with the tissues for a long time, over night at least. As a practical dermatologist, Unna recommends that the surgeon should scrub his hands before retiring, and wrap them in an alcohol compress and then in rubber tissue. When this alcohol dressing is removed in the morning the hands should be thoroughly lathered with a medicinal superoleaginous soap (Unna's *ueberfettete Seife*), and wiped on a sterile towel. The soap closes the pores and all germs alighting on the surface are washed off with the soap just before operating. In order to thoroughly appease the surgical conscience, he adds, soap containing sublimate might be used.

Muenchener Med. Wochenschrift, July 2.

Recovery after Crushing of the Thorax. Heineke.—A keg weighing 180 pounds rolled from a cart on the right chest of a man lying on his back. The ribs were broken in twenty-nine places, but the patient, a man of 39, recovered with no symptoms on the part of the heart or lungs, except a transient pneumonia and bronchial affection. Several of the fractures healed in a defective position, including one in the clavicle, and the patient still complains of a pain in the chest when he takes a deep breath or coughs.

Treatment of Syphilitic Sciatica. F. Mendel.—Three out of the twelve severe cases of sciatica in Mendel's experience during the last three years were of syphilitic origin. They were refractory to the ordinary mercurial treatment but rapidly yielded to five intramuscular injections, in the gluteal region, of 10 c.c. of a 10 per cent. emulsion of hydrarg. salicyl. and paraffin. The injection was repeated every three or four days. Improvement was marked even after one injection. Mendel has made 1500 injections during the last five years. The after-effects are so minimal that many patients prefer this method of mercurialization. They seem to become accustomed to the injections and find them scarcely painful at all after the first. He has never had an abscess follow an injection.

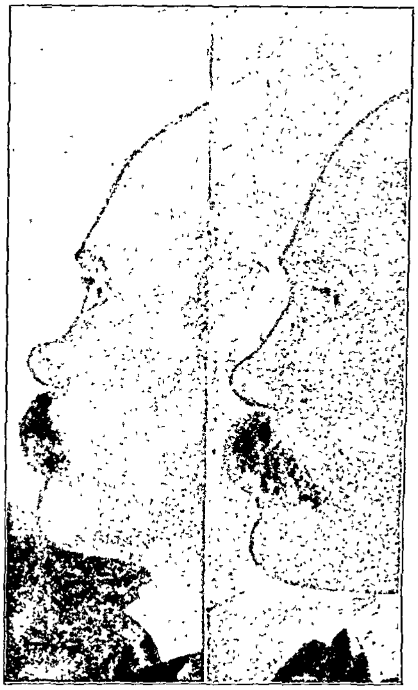
Wiener Klin. Wochenschrift, June 13.

Suppuration Without Bacteria. K. Kreibich.—Seven cases of herpes zoster were examined at Kaposi's clinic and the contents of the vesicles found completely sterile. An extensive eczema in another case presented the same phenomenon. All the vesicles suppurated in the course of twenty-four hours and yet no bacteria could be discovered in the contents of the vesicles. A recent case has corroborated this possible absence of bacteria in suppuration. All the vesicles in a vesicular eczema of the arm were transparent. The next day they were all turbid and the day after all contained pus, but no micro-organisms could be discovered in the fifty pustules examined, by three different methods. The serous contents had become transformed into pus without the aid of micro-organisms. Kreibich concludes that suppuration is merely a quantitative stage of inflammation and not a qualitative, different form of inflammation.

Reflex Cough from Foreign Body in the Ear. M. Breitung.—The loud barking cough of a high-school scholar was most annoying and suggested tuberculosis or some other infectious disease. The superintendent therefore considered it necessary to suspend him from school, but Breitung persuaded him not to take this step, assuring him that no clinical evidence of a pulmonary affection could be discovered. He finally found that one ear was plugged with an accumulation of wax around a foreign body. The cough vanished with its removal.

June 20.

Gersuny's Subcutaneous Paraffin Protheses. L. Moszkowicz.—Gersuny has now an experience of thirty cases treated by the subcutaneous injection of paraffin and the results have been invariably satisfactory. Two years have elapsed since his first experiments and the result now is the same as at first, demonstrating that the prothesis can be considered permanent. The paraffin evidently becomes encapsulated in time and persists indefinitely without change. The patient first treated—a prothesis of the testes, May, 1899, after bilateral castration—has since passed through a typhoid fever with temperature of 40 C. The paraffin seemed to be temporarily much softer at this time. Otherwise the artificial testes are the same as at first. No. 2 was a woman cured of incontinence of urine due to total loss of the sphincter and urethra—already mentioned in The Journal. The paraffin was injected around the vesical sphincter and the ring pushed into the bladder. This forms a valve projecting inward, which has put an end to the oozing of urine which had been continuous for five years. The effect has been permanently satisfactory. Pfannenstiel failed in a similar case as he did not reduce the paraffin ring and consequently the valve opened outward, and was not water-tight. He injected paraffin with a melting point at 45 C., which is much too high, as it can not be injected unless it is hot, and this favors its absorption and is liable to cause pulmonary embolism, which, in fact, did occur in his case. In patients Nos. 3 and 4, paraffin was injected into the palate or roof of the mouth to close a defect interfering with speech. Nos. 5 to 8 were injected in the anal sphincter to close a cicatricial defect in the sphincter left from a periproctitic abscess or extirpation of a rectal carcinoma. Prolapse of the rectal mucosa was cured in one patient by injecting 10 c.c. under the prolapsed tissue. His artificial anus was also rendered continent for the first time by the injection of 6 and later of 8 c.c. of paraffin around the orifice, partially closing it. The anus is thus rendered continent and the desire gives ample warning, but hard stools require some effort to void them. Nos. 9 to 11 were patients with hernia who refused operation. By the injection of a ring of paraffin around the hernia, an internal pad was formed, which supplemented the action of the truss and kept the hernia definitely under control. The paraffin injections have also proved useful in operations on the joints to prevent anchylosis, as the unabsorbable substance interposed between the articulating parts, prevents their growing together. Gersuny added a disinfectant to the paraffin for these cases, and after the joint had completely healed he removed most of the paraffin by puncture. In a case of resection of the upper maxillary bone, a violent neuralgia appeared in the domain of the trigeminus, requiring



Traumatic saddle nose, before and after injection.

resection of a portion of the second branch. In order to prevent the regeneration of the nerve, 2 c.c. of the paraffin were injected. The patient has been completely cured since. In the balance of the thirty cases, the paraffin was injected to cure deformities, usually of the nose consecutive to syphilis or trauma. Two cases are illustrated, showing the bridge of the nose completely sunken in—the "saddle-nose" of syphilis—transformed by the mere injection of .5 c.c. of paraffin into a normal, handsome nose. In another patient the paraffin was injected to remedy a defect in the cheek from an operation, first detaching the parts from the bone beneath. The paraffin was also injected in a case of extensive pitting from small-pox. Gersuny injected for this purpose a mixture of four parts olive oil to one part of the paraffin. This caused the tissues to swell, but after the olive oil had been absorbed, the cicatrix was left level with the surrounding skin, from which it was distinguished only by its smoothness. A young girl was injected with 65 c.c. of paraffin to remedy the cicatricial retraction of the thorax left after resection of several ribs on account of an empyema. The cosmetic results have been most satisfactory in every case. There have been no inconveniences of any kind and the results persist indefinitely the same as at first. The technique which Gersuny follows and which he claims is the only safe method as determined by his experiences in the clinic and by experimental research conducted under his direction, is as follows: The paraffin or unguentum paraffini must have a melting point between 36 and 40 C. This is a soft salve at the temperature of the room and is nearly fluid at that of the body. This soft, yielding body does not irritate the tissues but usually heals in place without reaction and can be palpated as a doughy mass at first, gradually growing harder, until after two months it feels cartilaginous from the proliferation through it and the encapsulation by connective tissue. Intense edema appears after injections in the scrotum or eyelids. In one case some of the vaselin had to be removed on this account. The vaselin is heated to boiling and then cooled by standing the dish in cold water. The syringe is filled while it is still warm and fluid, but it is not injected until it has cooled to the temperature of the room when it emerges like a worm from the point of the fine needle. Embolism from vaselin of this consistency seems to be impossible as there is no absorption as of a fluid. In loose tissue the vaselin must be protected from pressure and muscular movements to keep it at the desired point. In compact tissue a place must be made for it by a previous infiltration anesthesia and only a small amount should be injected at a time. In injecting paraffin to correct a deformity in the nose, Gersuny inserts the needle from the bridge of the nose down to the tip and injects the paraffin as he gradually withdraws it. When the entire framework of the nose is destroyed, the paraffin must be injected also under the alæ nasi. In injecting cicatricial tissue, if the needle is inserted too close to the surface a visible reaction follows and the parts become red for three or four weeks. The exact melting-point is determined by coating the bulb of a thermometer with the vaselin and then placing the thermometer in water gradually heated. After it melts and floats on the surface of the water the temperature of the cooling water should be noted when the transparent drops become opaque once more.

Objective Disturbances in Sensibility in Case of Aneurysm of the Aorta. H. Frick.—The only subjective symptom of the large aneurysm in two cases reported, was intercostal neuralgia. The sensory disturbances in the trunk were peculiar in their fleeting, changeable character. One day the zone of anesthesia and hypo-algesia extended from the sternum to the axillary line. The next day there would be hyperalgesia with the sense of contact entirely lost. Sometimes the zone would indicate a lesion of a peripheral nerve, or with hypo-algesia there would be retarded sensation of pain. The two cases indicate that these abrupt changes in the sensory domain may prove to be characteristic of aneurysm. The anesthesia always corresponded to the course of some intercostal nerve in which spontaneous pains were experienced at the time. Hysteria could be excluded in each case.

June 27.

Local Mercurial Treatment of the Fetus. G. Riehl.—Thirty-three pregnant women in the secondary stage of recent syphilitic infection were treated by Riehl with the usual general specific measures, and in addition a suppository of 1 gm. mercurial ointment in 1 to 2 gm. of cocoa butter was introduced in the vagina to the portio, where it was held in place by a tampon. He commences this local treatment with the beginning of the pregnancy and continues it to the end. Abortion occurred only once, and premature delivery three times in the 33 cases. The total mortality was 12 and the morbidity 21 per cent.; 88 per cent. of the children were born at term and healthy; 2, i. e., 6 per cent. died and the same number showed signs of inherited syphilis. The women were all hospital patients. This local specific treatment seems to exert its influence chiefly on the fetus, as the mother showed no signs of intensive mercurialization. Stomatitis was no more frequent than with the general treatment alone.

July 4.

Cure of Osteomalacia by Diaphoresis. R. Schmidt.—It seems now to be generally accepted that the anatomic foundation of osteomalacia is a disturbance in the circulation of the bones, especially in the bone marrow, a hyperemic inflammation, secondary to some unknown process, possibly in the ovaries. To combat this hyperemia and inflammation, Neusser causes an intense superficial hyperemia to draw the blood away from the deep tissues. He accomplishes this with local hot-air baths and the results have established that this treatment is based on sound principles. Schmidt describes two cases of puerperal osteomalacia thus treated. The children were born very rachitic. The first patient had grown shorter by two finger-breadths and walking was impossible on account of the intense pains. The second patient had grown shorter by three finger-breadths and had been bed-ridden for ten months. The hot-air baths were given daily for one to one and one-half hours, usually in the evening, as the patients feel drowsy afterward. The subjective improvement was evident after the first few baths. In nine days the patients could walk and in one month the first patient and in three months, the second, could walk with ease and climb stairs without pain. Both patients resumed their household occupations and consider themselves perfectly well. The second patient notices a slight pain in the sacral region after working all day; the first has no symptoms. The latter took fifty-nine baths in all; the other patient a daily bath for three months. It is possible that the elimination of acids in the diaphoresis may have something to do with the brilliant success of this method of treating osteomalacia. The regulation of the circulation in the bone marrow puts an end to the acid-formation which some assume to be a factor in the process. Schmidt urges others to try this new method of treating osteomalacia and to refrain from combining other measures with it, for the present, in order to judge it on its own merits.

Functional Disturbance of the Tubes after Resection of Jaw. G. Alexander.—Two cases were recently observed at Politzer's clinic in which deafness followed an operation on the upper jaw. The deafness could have been prevented if a small portion of the posterior part of the hard palate had been saved in operating, to preserve the point of attachment of the muscles governing the opening and closing of the tube.

Books Received

Diseases of the Intestines. By Dr. I. Boas, Specialist for Gastro-Intestinal Diseases in Berlin. Authorized Translation from the First German Edition, with Special Additions by Seymour Basch, M.D., New York City. With 47 Illustrations. Cloth. Pp. 562. Price, $5.00. New York: D. Appleton & Co. 1901.

Operative Surgery. By Joseph D. Bryant, M.D., Professor of the Principles and Practice of Surgery, Operative and Clinical Surgery, University and Bellevue Hospital Medical College. Volume II. Operations on Mouth, Nose and Esophagus, the Viscera connected with the Peritoneum, the Thorax and Neck, Scrotum and Penis, and Miscellaneous Operations. This Volume contains 827 Illustrations, 40 of which are Colored. Cloth. Pp. 1302. Price, $5.00 per volume. New York: D. Appleton & Co. 1901.

Twenty-fourth Annual Report of the Board of Health of the State of New Jersey, and Report of the Bureau of Vital Statistics, 1900. Cloth. Pp. 409. Trenton, N. J.: John L. Murphy Publishing Co. 1901.

Crazes, Credulities and Christian Science. By Charles M. Oughton, M.D. Cloth. Pp. 121. Price, $1.00. Chicago: E. H. Colgrove. 1901.

Practical Surgery: A Work for the General Practitioner. By Nicholas Senn, M.D., Ph.D., LL.D., Professor of Surgery, Rush Medical College, Chicago. Handsome octavo volume of 1133 pages, with 650 illustrations, many in colors. Cloth, $6.00 net. Philadelphia and London: W. B. Saunders & Co. 1901.

Murder as a Money-Making Art. A Social Study. By John C. McKowen, M.D., Member of the American Social Science Association. *Paper. Pp. 63. Baton Rouge, La.: Benton Print. 1901.*

Clinical and Pathological Papers from the Lakeside Hospital, Cleveland. Paper. Series 1, 1901.

Queries and Minor Notes.

GOD AND THE DOCTOR.

Some time ago, a correspondent asked for the author of the following lines:

"God and the Doctor we alike adore
When on the brink of danger, not before;
The danger past, both are alike requited:
God is forgotten, and the Doctor slighted."

The same question has been asked of the editor of the *British Medical Journal,* who replies as follows (June 6, 1901):

The lines are quoted in Styrap's *Code of Medical Ethics* (London, 1890, p. 75), but the author's name is not mentioned. They have a generic resemblance to the Latin quatrain said to have been written by a mediæval physician, whose name escapes us:

"Tres medicus facies habet: unam quando rogatur,
Angelicam; mox est, cum juvat, ipse Deus;
Post, ubi curato poscit sua præmia morbo,
Horridus apparet, terribilisque Sathan!"

The following translation of this epigram is taken from Timothie Kendall's *Flowers of Epigrams* (1577):

"Three faces the Phisition hath.
First as an Angell he,
When he is sought; next when he helpes,
A god he semes to be;
And last of all, when he hath made
The sicke, deseased well,
And asks his guerdon, then he semes
An oughly Fiend of Hell."

It has been cynically suggested that the gratitude of the patient is a part of his disease. It comes on with the fever, improves during convalescence, and disappears on the return of health.

TUBERCULOSIS AND HEART DISEASE.

Philadelphia, July 17, 1901.

To the Editor:—I should be obliged for answers to the following queries:

1. In what percentage of the cases of chronic valvular disease affecting the mitral and aortic segments has pulmonary tuberculosis developed as a secondary event?

2. If notes have been kept, kindly give the total number of cases, both of valvular disease and pulmonary tuberculosis, as well as the percentage.

3. If no records have been kept, kindly state opinion as to the frequency of the occurrence of pulmonary tuberculosis secondary to chronic valvular disease at the orifices mentioned above.

4. What is the effect of valvular disease—mitral and aortic—upon the course of chronic pulmonary tuberculosis?

5. Have lesions of the pulmonary artery valves seemed to predispose to pulmonary tuberculosis? (Statistics on this head are also desired.)

6. If chronic valvulitis affecting the mitral and aortic cusps exercises a preventive effect, what is the explanation?

7. If disease of the pulmonary valves (I refer especially to stenosis) predisposes to phthisis, how is the effect accounted for?

1605 Walnut St. J. M. Anders, M.D.

SECRETARIES OF STATE BOARDS.

Milwaukee, Wis., July 15, 1901.

To the Editor:—I would be greatly obliged for the names and addresses of the secretaries of the Medical Boards of the following states: Arkansas, Colorado, Kentucky, Nebraska, Nevada, New Mexico, Oklahoma and Wyoming. W. A. L.

Ans.—Arkansas: Only registration of diploma with county clerk required, or examination by county board if a non-graduate. Colorado: Dr. C. K. Fleming, Denver. New Mexico: W. G. Hope, Albuquerque. Kentucky: J. N. McCormack, Bowling Green. Oklahoma: L. Haynes Buxton, Oklahoma City. Nevada: Dr. S. L. Lee, Carson City. Wyoming: G. R. Johnston, Cheyenne.

STATE BOARD EXAMINATIONS.

In our reference in the issue of July 6, back to the previous answer to the question as to the states where a satisfactory diploma was a sufficient qualification for practice, an exception should have been made of Wisconsin. That state passed a law approved May 8, going at once into effect, requiring an examination in all cases, and also a diploma from a reputable medical college requiring four years' course, and also, after 1901, advanced preliminary educational requirements.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending July 13, 1901:

Asst.-Surgeon R. T. Atkinson, ordered to the Washington Navy Yard, July 8.

Asst.-Surgeon A. W. Balch, ordered to the *Wabash,* July 8.

Asst.-Surgeon J. R. Whiting detached from the *Dixie* and ordered home to wait orders.

Asst.-Surgeons P. E. McDonald and R. M. Young appointed assistant surgeons from July 2, 1901.

Asst.-Surgeon M. V. Stone, ordered to Naval Hospital, Mare Island, Cal.

Asst.-Surgeon R. T. Orvis, detached from Naval Hospital, Mare Island, July 20, and ordered to the *Pensacola.*

Asst.-Surgeon R. R. Richardson, detached from the Naval Hospital, New York, and ordered to Naval Hospital, Newport, R. I.

Asst.-Surgeon A. E. Peck, detached from the *Pensacola,* July 20, and ordered to the Asiatic Station as relief of Asst.-Surgeon F. L. Benton.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended July 12, 1901:

SMALLPOX—UNITED STATES.

Iowa: Ottumwa, June 1-29, 8 cases.

Kansas: Wichita, June 29-July 6, 4 cases.

Louisiana: New Orleans, June 29-July 6, 2 cases.

Massachusetts: Fall River, June 29-July 6, 7 cases; New Bedford, June 29-July 6, 1 case; Worcester, June 21-July 5, 4 cases, 3 deaths.

Michigan: Detroit, June 29-July 6, 1 case.

Nebraska: Omaha, June 29-July 6, 6 cases.

New Hampshire: Manchester, June 29-July 6, 1 case.

New Jersey: Newark, June 29-July 6, 4 cases, 1 death.

New York: June 29-July 6, Dunkirk, 1 case; New York, 91 cases, 25 deaths.

North Dakota: June 29-July 6, Buffalo, 2 cases; Glaston, 5 cases; Lakota, 2 cases; Lidgerwood, 2 cases; Valley City, 12 cases.

Ohio: Cincinnati, June 28-July 5, 1 case; Cleveland, June 29-July 6, 18 cases, 2 deaths; Toledo, June 29-July 6, 1 case.

Pennsylvania: June 29-July 6, Philadelphia, 2 cases; Pittsburg, 4 cases.

Rhode Island: Providence, June 29-July 6, 1 case.

Tennessee: June 29-July 6, Memphis, 1 case; Nashville, 3 cases.

Washington: Clallam County, June 18, 3 cases.

Wisconsin: Green Bay, June 30-July 7, 4 cases.

SMALLPOX—FOREIGN.

Austria: Prague, June 15-22, 2 cases.

Belgium: Antwerp, June 8-15, 4 cases, 1 death.

China: Hongkong, May 18-25, 2 cases, 1 death.

Colombia: Panama, June 25-July 1, 5 cases, 1 death.

Egypt: Cairo, June 10-17, 2 cases.

France: Paris, June 15-22, 11 deaths.

Germany: Berlin, June 18, 2 cases.

Gibraltar: June 16-23, 1 case.

Great Britain: Glasgow, June 21-28, 10 cases, 1 death; London, June 15-22, 1 case.

India: Bombay, June 4-11, 5 deaths; Calcutta, June 1-8, 12 deaths; Karachi, May 26-June 2, 1 case.

Italy: Naples, June 16-23, 149 cases.

Netherlands: Rotterdam, June 15-29, 3 cases, 1 death.

Russia: St. Petersburg, June 8-15, 1 death.

Switzerland: Geneva, June 1-15, 3 cases.

YELLOW FEVER.

Colombia: Bocas del Toro, June 29, 1 death.

Cuba: Havana, June 22-29, 1 death, case came from Santiago de las Vegas.

Jamaica: Kingston, June 1-30, 1 death.

CHOLERA.

India: Bombay, June 4-11, 2 deaths; Calcutta, June 1-8, 63 deaths.

Straits Settlements: Singapore, May 18-25, 1 death.

PLAGUE—FOREIGN AND INSULAR.

Africa: Cape Town, to June 15, 714 cases, 338 deaths.

China: Amoy, May 11-28, 1050 deaths; Hongkong, May 15-25, 200 cases, 87 deaths.

India: Bombay, June 1-8, 86 deaths; Calcutta, June 1-8, 40 deaths; Karachi, May 26-June 2, 45 cases, 41 deaths.

Turkey: Constantinople, July 3, 2 cases.

Hawaii: Honolulu, June 25, 1 death.

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Original Articles.

A FURTHER STUDY OF PSEUDO, OR MODIFIED SMALLPOX (?)*

T. J. HAPPEL, M.D.
TRENTON, TENN.

At Atlantic City one year ago I reported my experience with 300 cases of pseudo, or modified smallpox (?) This report was made from a personal, bedside study of these cases in all stages of this disease. I presented statistics showing that in some cases not one of the family escaped; in others, only one or two members of a large family showed any signs of the disease; and in others but one case in a large family, even though the members of the family came in daily contact with the disease. It was further shown that the disease lacked many of the distinctive features of true smallpox. Of the 300 cases seen by me, the ordinary fever, or the fever of invasion, was, in a large majority of cases, slight; the headache, backache and other symptoms were often severe, but the gravity of these prodromata were not always in a direct proportion to the amount of the eruption, indeed this ratio was sometimes reversed; a syphilitic or scrofulous dyscrasia, or diathesis was an important factor in determining the gravity of the disease; and finally, in every case presenting any grave symptoms at all—these cases were extremely rare—syphilis or scrofula could be proved to be present.

It was further shown that none of these cases presented any secondary symptoms; that the temperature did not rise above normal in 80 per cent. of these cases, and that I never found it above 101 in any case; that the pustular stage was lacking in all of these cases—there being formed in the vesicles, instead of pus, an opaque, lymphoid fluid, which began to show in the vesicles within twenty-four hours from the beginning of the vesicular stage; that the vesicles were unilocular, not multilocular, as in variola vera; and that when opened in any way they would collapse at once, a condition which did not take place in true smallpox.

I also demonstrated that around the base of these vesicles there was no puckering, that while some of them appeared umbilicated, it was an apparent, not real umbilication, due to the escape of some of the fluid contents of the vesicle at the apex which permitted a puckering at the base, and this fluid becoming discolored by contact with air gave it an appearance of a central depression. In my paper it was likewise pointed out that in not one of the 300 cases reported was there, after the appearance of the initial papule and subsequent vesicle, any inflammatory area around their bases or in the interspaces between them, a thing claimed to be one of the distinctive features, along with the secondary fever, of variola vera. Then, too, in none of these cases was there any prostration. After the disappearance of the prodromic fever the patients all felt well and were ready and willing both to eat and to work, except in the few cases where the eruption involved the palms of the hands and the soles of the feet. No patient was in bed longer than a week, three days being the rule with 80 per cent. of these patients. In what should have been the pustular stage, but in these patients was the stage of desiccation, or desquamation, there was no odor, even when several were kept in one room; the only smell present being the odor peculiar to the negro race. It was also noticed that not more than 10 per cent. of these cases were at all pitted, and that in many of the cases, which appeared at first to be typically marked, the pits have gradually disappeared, leaving no more pits than you would find in any severe case of varicella.

In that paper I did not attempt to designate the disease by any special name, but suggested, "pseudo-smallpox." In closing my paper I asked: "What is it?" In the discussion which followed, the state health officials largely took the position that it was true smallpox, reasoning by exclusion, and holding to the position that it could be nothing else, because it did not correspond as nearly with any other eruptive fever as it did with smallpox. Whenever any discussion of this disease has been had, the same question has been asked so often that, to use a slang expression, this query has appeared to be a part of the stock in trade of those who have opposed the idea of a new disease: "If this is not smallpox, what is it?"

The very way in which the question has been put implies on the part of the one putting it a doubt as to the certainty of the identity of the disease with true variola. I also stated in my paper the fact that it was evident that to express any opinion as to this disease being other than smallpox was to oppose the position taken by the state and county health officials, as a rule, but that many of the members of the medical profession, who have been familiar with variola vera during and immediately after the war, doubted that these two diseases were identical. Several of the state boards of health had issued pamphlets describing it as a mild, and others, as a modified smallpox, but not many undertook to advance any reason for this modification of the disease, except, indeed, one weak brother who timidly suggested that it was due to long-continued vaccination—a suggestion totally at variance with the facts in the case, for it was shown that for generations the negro had been vaccinated scarcely at all, and that there had been no systematic vaccination in the country districts since the sixties, and yet this disease was most common and milder among negroes in the rural districts. The possibility of this disease being smallpox modified by long-continued vaccination is absurd.

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* Read in Symposium on Smallpox, in the Section on Practice of Medicine, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

Equally absurd is it to claim that the low mortality has been due to our better understanding of the disease and a more common-sense management of it; for the facts are, that if let alone, no medicine given and no transference to pest-houses made, the mortality would be practically nil; but with all the diverse managements and mismanagements of the disease in the state of Tennessee, in 8197 cases reported from Oct. 1, 1899, to April 1, 1901, there had been but 162 deaths, and 50 of these were in the pest-houses at Memphis and Nashville, where cases of variola vera are found and treated every year. No doubt some cases of variola were included in this report, yet the death-rate has been about 2 per cent. It is also significant that in many counties of the state the presence of this disease was utterly ignored and in others the treasuries were almost bankrupted in their effort to stamp out the disease—one county spending $32,000 in a vain effort to suppress it, and another, after spending $10,000, with the disease constantly on the increase, declined to maintain longer any pest-houses or to go to any further expense to suppress it, and in spite of this fact, found itself free from further new cases within thirty days.

The plea, therefore, that improved methods of treating and managing the disease could have been a factor in the lessened death-rate was unsustained. If from the reported deaths are subtracted all the cases in which the deaths occurred during, and not caused by, the disease, as I found in several of my 400 cases, the death-rate becomes practically nil, outside of the pest-houses in the larger cities.

The grouping together of cases of any disease, with all the unsanitary surroundings of the modern smallpox buildings in the country counties, arranged for the care of the negro population, would tend much to increase the mortality rate of the disease. Those of you who are accustomed to the arrangements made in cities for the care of infectious and contagious diseases, seeing the rough board shanties in which dozens of cases, old and young, male and female, in all stages of the disease, are placed on cots or on the floor in one large room, would expect a death-rate of at least 25 per cent. Instead, our state authorities give you an epidemic of variola vera, with a mortality of less than 2 per cent., with many of the cases never confined to bed; and in the large majority of cases—two-thirds at least—in bed less than a week, and returning to work in less than two weeks, complaining of no loss of strength and having no sequelæ.

The cases, somewhat over 100, coming under my own observation since my report of 1900, have served to confirm my doubts as to the possibility of the epidemic being one of variola vera. The State Board of Health predicted, from former experiences with variola, that the cases would become more severe, and the epidemic more difficult to control with the advent of cold weather; that so long as the weather was warm and good ventilation could be maintained, the cases would do well, and the prognosis would be favorable, but that when the cabins and huts of the poor had to be closed to secure proper warmth, then the death-rate would grow.

The first case to which I was called in the second epidemic began about the middle of December, 1900, and, as before, among the negro population of our county. Children, whose mother had died in an infected house, and who had themselves been exposed to the disease in an adjoining county, were sent by rail with their bedding and household effects into this county. About ten days after their arrival they began to suffer with backache and headache, but, having the whooping-cough, their grandparents suspected nothing until the appearance of the eruption. At that time I was called, and recognized my visitor of the year before. The persons who hauled the bedding and personal effects from the station to their home, a distance of several miles, never developed the disease; nor did any of the visitors to the house, of whom there were several, although they did not sleep in the house. All of the children in this family, four in number, contracted the disease; the father and mother escaped, one of them having been vaccinated, the other not. A daughter, visiting and remaining in the house, carried the disease to her family, four in number, but this was the only family which contracted the disease from the original focus. One of the children was taken by relatives and kept by them. This child entered the public school of the neighborhood, had a mild attack of the malady, was out of school but one day, and was a regular attendant after that till he was taken to Illinois; he was then in the stage of desiccation. His relatives with whom he lived both had the disease. This ended the epidemic in that neighborhood, making a total of 16 cases.

From that time until April 1, cases were reported in the southern portion of the county. In one house there was one case, an adult male, who had been vaccinated several years before. His wife and child, who had not been vaccinated and who were with him all the time in the same room, escaped, as did another adult male, who occupied another room. In another case, but one in a different locality, every one had the disease, while but a short distance away, in another family, there were only two or three cases.

In January, I saw one case of variola vera, contracted in Texas. No cases developed from this one, as all in the neighborhood had been forewarned. This patient was white, as was one other in the 110 cases constituting the epidemic in the county.

In March, on a tour of inspection, I saw about 35 cases, in seven or eight families. They were in all stages of the disease, many of them at work, and but one in bed; he was a male, aged about 50, and had a typical vaccine mark on his arm. In the 110 cases reported, one died *with*, but not on account of the disease. She was 86 or 87 years of age, bedridden for months from la grippe—simply waiting for some disturbing factor to occasion her death.

Some of the many anomalies met with in the epidemic of 1899-1900 and 1900-1901 have already been mentioned. In one large family there was but one case, and in that the patient had been in close contact with all the household during the period of invasion and first three days of the eruption, supposing that he was developing a case of measles. After that time he went to work on his own premises, never being shunned by any member of the family, although he slept by himself. As stated, his was the only case in the family, and there has been no case since that time, in spite of the fact that neither was an effort made to fumigate his house, nor were any other preventive measures taken, except to boil the bedding and wearing apparel. All the members of this family were vaccinated as soon as his case was discovered, but on not more than half was the result successful.

In another family there developed among the children, who were attending school within a few hundred yards of their house, case after case before their condition was reported. None of the children affected had been vaccinated, nor had any of the children attending the school, and although the children did not lose more than two days from school, yet no one contracted the disease. Certainly continued and oft-repeated vaccination was no factor in this and several other families.

Another case attended by me this year was located within fifty yards of a schoolhouse where school was held daily. The patient, aged about 20, was very popular among the school children, who visited him daily. Not one contracted the disease, neither did his mother nor a smaller sister, who slept in the same room with him, and none of them had been vaccinated.

I reported in my paper of last year, a family of ten, in which one member developed the disease, and was seen by me on the seventh day of the eruption. All the other members of the family were vaccinated on the next day. The virus failed to "take" in three cases. Of the three who escaped the disease, two were the wife and child of the sick man, and on whom vaccination had proved a failure. On the sixth day after vaccination the other six had typical arms, and yet on the thirteenth day after vaccination the usual prodromic symptoms developed and all of them had the disease, but in a milder type than did the first patient. Query: "How many would have escaped had they not been vaccinated?" Since that family vacated the house in which they suffered with the disease, another family moved in and lived there without contracting it.

The house had not been disinfected, nor was any systematic work done in that line in any house where the disease had been present. Anyone who knows anything about a typical negro cabin would realize how completely any effort in that line would fail. If the germs of any disease can be retained in any house or bedding, the negro cabin of Tennessee would be a typical abiding place.

I have to-day—May 15, 1901—visited a white male, with the eruption peculiar to this modern smallpox. This man is able to prove that he has not been off his premises for a month, and that no one, aside from his family and known friends, has been on the premises. He has a typical vaccination scar on his arm, due to vaccination in boyhood. On the fourth day of the eruption we find it papular, vesicular and opaque lymphoid; and some of the vesicles desiccating. Not a vesicle has any inflamed area around its base. To all intents and purposes the man is well, and yet the eruption is more extensive than in severer cases seen by me. I advised him to keep himself from contact with any one except his family, and to work on his own premises. His wife was vaccinated, and so were several others who were exposed. This case stands, thus far, as one originating spontaneously in a person previously vaccinated.

In one town in this county the city board of health refused to vaccinate further and allowed those with the disease to pursue their usual vocations, except when the eruption was in the vesicular, or early so-called purulent stage. Their reason for pursuing this course was said to be that there was less suffering and inconvenience from the disease than from the vaccination. In that town of 600 or 700 inhabitants there were 100 cases, with one death; and that occurred in the case of an old, feeble invalid who was reported to have died as the result of drinking a throat-wash containing carbolic acid. The cause of this death was given as: "Congestion of the lungs." The hotel-keeper's whole family had the disease, but the house was kept open for guests during the entire time of their sickness.

In one of the civil districts of this county, about fourteen miles distant from this town, there were about 50 cases of this modern, modified smallpox, but I was politely informed that I was not needed there, as they would be cared for at no expense to the county, and that they did not want any sore arms from my vaccinations. With this message, couched in polite terms, the vaccine virus, sent to the physicians of these districts, was returned to me, and I heard nothing more from them; in one trip through that section I had satisfied myself as to the nature of the disease.

In no previous epidemic of variola have there been so many cases reported occurring among those vaccinated. It is a well-known fact that a person who has been vaccinated may contract varioloid, but this rarely occurs, and then the mortality in such cases of varioloid is more than 5 per cent. In this epidemic, vaccinated persons suffered together with the unvaccinated, and apparently just as much. So few persons in this county have been vaccinated since the civil war that no comparison can be instituted along that line. Soldiers, who returned from prisons, brought back such horrifying reports of the suffering from vaccination that nothing short of a case of smallpox could induce them to permit any of their families to be exposed to what they conceived to be the dangers of vaccination. The medical journals abundantly confirm this statement, as do scores of private letters received by me in regard to this point.

I tabulate, from a paper read by Dr. Runyon, of Clarksville, Tenn., 106 cases of modern (?) smallpox, or variola. The tables show 70 in persons either not vaccinated or unsuccessfully vaccinated, and 36 in cases vaccinated, many of them within twelve months. This shows a little over one-half as many cases among persons vaccinated as among the non-vaccinated. In these 106 cases one death is reported, that of an unvaccinated person. In this report of Dr. Runyon's, he writes me: "Dr. McReynolds (Elkton, Ky.) wrote me that, with the exception of the first case that died and the one vaccinated with humanized virus, he could discern no difference between the course of the disease in the vaccinated and the unvaccinated. The one vaccinated with humanized virus was exceedingly mild." It is neither necessary to reiterate the same point made in the letters with my report of last year, nor to more than refer to the fact that many letters received during 1901 have emphasized the same point.

Now, if, when the ratio of the non-vaccinated to the vaccinated, at the beginning of this epidemic, was not less than ten to one, the ratio of those who had been vaccinated and yet had this disease, to the number of non-vaccinated who had it, was about equal, can vaccination be said to have controlled to any great extent the epidemic? Then, too, it must be remembered that in the South the better class of people only had been vaccinated, that the lower class of whites and negroes were almost wholly without the protective influence of vaccination; does not the ratio presented above appear peculiar? I might thus continue to point out peculiarities in this epidemic, but enough has been done in this line.

I may add one more peculiarity. Every layman who has ever had or seen smallpox, every soldier who was conversant with variola vera in the sixties, is prompt to make this statement when he sees one of these cases, "It is not like the smallpox I had, or nursed." All of the laity are not fools. Neither do I believe that every physician who hesitates to call this epidemic variola, "should change his vocation," as do some of our health officers, any more than I should think the same course right and proper in the case of the physician who doubts the propriety of styling every case of continued fever refusing to respond to quinin, typhoid fever. Some of us at least are not seeking notoriety by attempting to discover some new disease, but are honestly trying to determine what this disease may be. Personally, I know that my position is not one popular with the profession as a whole. The position of "me too," is an easy one to assume, but to call every eruption, which is first papular and then vesicular, met with in adults, smallpox, is, to say the least, not up to my standard of common honesty.

I append here a tabulated statement of the diagnostic points between this eruptive disease and variola vera. In compiling it I am indebted to Dr. Mayo, of Salt Lake, Utah, for valuable suggestions.

DIFFERENTIAL DIAGNOSIS.

	Type of Prevailing Disease.	*Smallpox.*
	There are no varieties. All are of the same general character and differ in degree only.	The varieties are: Varioloid, discrete, hemorrhagic, confluent.
INCUBATION.	Fourteen to eighteen days.	Fourteen to twenty-one days.
SYMPTOMS, FIRST TO THIRD DAY.	At onset patient complains of cold; feels as though an attack of grip or tonsilitis were coming on. Temperature 102-105. Little or no vomiting. Pulse full and rapid. Little or no prostration. No delirium. No convulsions in young. In a few cases there may be sleeplessness.	Onset sudden, violent chill, persistent vomiting, agonizing pain in back and head, shooting down the limbs. Temperature, 103-104. Pulse full, strong and rapid. Prostration great from onset. Eyes injected. Sleeplessness, delirium, convulsions in young.
SYMPTOMS, THIRD DAY.	No coarse red spots appear.	Coarses red spots appear on lips and forehead. With appearance of these spots *temperature falls to normal* and patient is comfortable.
SYMPTOMS, FOURTH DAY.	Eruption appears. Its character is generally that of acne. In some instances the shot-like papulæ appear, but rarely. Temperature falls to normal and patient almost invariably gets up, if he has gone to bed, and says he is well. The eruption appears on face first. In men, about the forehead, cheek and chin. In women and children, irregularly about the face. There is usually a sore throat.	Small, red spots appear on forehead at juncture of hair, followed by their appearance on extremities. Papulæ follow red spots. They have a shot-like feeling.
SYMPTOMS, FIFTH DAY.	Acne-like eruption and papulæ develop into vesicles, which assume an opalescence at once. These vesicles are *unicellular* and are not umbilicated. The serum which exudes at their apices dries and turns brown, which in some cases give them the appearance of umbilication. There is no puckering of the vesicle at its border. The temperature is generally normal unless it rises from abscess formation or other causes. The vesicle may dry up and the disease may be said to have aborted. A rapid recovery follows.	Papulæ appear on wrists and forehead.
SYMPTOMS, SIXTH TO NINTH DAY.	The vesicles become filled with an opaque, lymphoid fluid, in some cases with a brown nucleus *in the center*, which gives it an umbilicated appearance. This vesicle with its opaque fluid, miscalled pus, shrinks to one-half its diameter and becomes a thin, brown scab, perfectly circular. No stench. The patient is well after the appearance of the eruption. He insists on getting up and having plenty to eat. If the eruption is copious he looks bad, but he will tell you he feels well. The eruption in a few cases affects the conjunctivæ. There is no secondary fever. *From this time on it is simply a matter of scabs dropping off.* By the tenth day the patient may be entirely clear. If the eruption spreads over the entire body he may not be clear of scabs until the fourteenth day.	Vesicles appear in place of the papulæ, and eruptions spread gradually over entire body. The vesicles are umbilicated and multicellular. On the eighth and ninth days the vesicles become pustules and each is surrounded with a broad, red band, or efflorescence, features become distorted; *severe rigors and fevers*; original symptoms return; stench is beginning. Great delirium and convulsions *in young*. Very critical period.
SYMPTOMS, TENTH TO TWELFTH DAY.		Pus oozes and forms scab, stench exceedingly bad.
SYMPTOMS, SEVENTEENTH TO TWENTY-FIRST DAY.		Scabs drop off, leaving red, glistening pits, which soon become white. Ulceration is deep, reaching the *corion*. Ophthalmia is generally present. Pustules have invaded mouth, larynx, pharynx and trachea. *Petechiæ form on lower part of abdomen* and inner aspect of thighs, on first and second days in some cases.
PAPULÆ.	Papulæ when present same size as smallpox, perhaps a little smaller, but fewer in extent. There may be no papulæ. Vesicles range in size from the head of a pin to the size of a split pea. Not umbilicated and when punctured collapses. The vesicle is unilocular. Convalescence begins on appearance of eruption. The so-called pustule does not extend into the derma. The epidermis is the only structure of the integument involved. Hence, there is no pitting. The vaccinated take the disease.	Papulæ are about size of No. 4 shot and have a translucent appearance, encroach on entire body, including palms and soles. Appears on face and hands first. Vesicle is umbilicated and multilocular. So is the pustule and neither will collapse *in toto* if pricked with a needle.
PROGNOSIS.	Good. Death rate nominal. *When all cases are included for* a whole state, both of those cases dying with this disease, and with similar diseases reported under the general name of smallpox—less than 2 per cent.	Discrete, 6 to 25 per cent. *Confluent, 50 per cent.* Hemorrhagic, all perish. In general the progress depends on age of patient, variety of attack and vaccination. In an ordinary epidemic, all cases included, the mortality is from 25 to 35 per cent.

Fourteenth International Medical Congress.—The preliminaries of this congress, to be held at Madrid, in 1903, are well under way. The date is April 23 to 30, and the fee 30 pesetas. The executive committee has organized sixteen sections, which includes odontology and military medicine. The president is Professor Julian Calleja y Sanchez; treasurer, Dr. Jose Gomez y Ocena.

SMALLPOX—OLD AND NEW.*

W. L. BEEBE, M.D.

ST. CLOUD, MINN.

The above title evidences our belief that the epidemic which has been prevailing throughout the United States and our new possessions for the past two years, is not identical with the old-fashioned smallpox of twenty years ago. I have been identified with two epidemics—twenty years apart—and though they were evidently both species of smallpox, they were nevertheless very dissimilar in many characteristics. Without exception, the descriptive adjectives applied to our later epidemic, whether through the reports in our daily papers, or in the more authoritative reports in the medical journals, all contain such terms as "mild," "modified," "light type," etc., and many medical men, even up to this day, deny that our present disease is, in fact, smallpox.

It is safe to assert that more of the recent cases have been diagnosed chicken-pox than smallpox, and I am free to confess that in the first two cases that I saw—a year having elapsed between the cases—I was of the opinion that they were not true smallpox. When we passed through the epidemic twenty years ago there was never any difficulty in diagnosing the disease, though I had never previous to that time seen a case. The attacks then were so typical of the disease, as described in our text-books, that there could be no mistaking it. This season when we went, confident of our ability to differentiate this disease from all others, and were compelled very meekly and modestly to say: "Well, I do not know. I am in doubt as to whether it is a very severe case of chicken-pox or a very mild case of smallpox," and had to send to our state boards of health for a decision, you can readily imagine our embarrassment.

I want to show two or three peculiarities of our recent epidemic. The first case was the wife of a man who was markedly pitted from an attack of smallpox occurring several years previously. This man contracted the new disease from his wife; a sister and little child, neither of whom had been vaccinated and who were in the same rooms with my patient throughout the attack, were not affected by it. In fact, the question as to whether immunity or mitigation of the severity of our recent cases was conferred by vaccination was very much of a question. It is not at all a settled fact that the patients previously vaccinated showed a modified form in any manner. We had several patients that had never been vaccinated, but we are unable to say that the disease was more severe in their cases than in those who had been vaccinated. Of course, here would come in the question of an inherited immunity, vaccination having been very thorough of late years on the part of the parents of most of the patients. This fact has been advanced as a possible cause of the unquestionable mildness that the present epidemic has assumed. Whether through the thorough vaccination of generations of ancestors partial immunity can be established admits of some doubt; and yet it is a very ingenious explanation of an otherwise unexplainable fact.

I recently saw a family of thirteen that had passed through the disease, all having been afflicted; the parents only had been vaccinated, and yet I was unable to see that the vaccination had in the least mitigated the severity of the disease. The parents were pitted as much as the eleven children, and they claimed they had been just as sick. This family had been infected by a child with what a local physician called chicken-pox.

Notwithstanding these stubborn facts, we do not desire to be classed in the ranks of the disbelievers in the efficacy of vaccination. In fact it is our intention, when opportunity offers, to act on the suggestion of Dr. Stern, of New York. He presented, in a paper to the Manhattan Clinical Society, in April, 1901, a report of ten or twelve cases of uricacidemia, gouty, rheumatic and neuralgic diseases that had been materially improved in condition and entirely relieved of pain by vaccination.

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* Read in Symposium on Smallpox, in the Section on Practice of Medicine, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

SANITARY FEATURES OF SMALLPOX.*

LOUIS LEROY, M.D.

NASHVILLE, TENN.

Smallpox is a disease which possibly above all others should be dealt with by health authorities. The question as to whether it is best handled by local or state boards of health will depend, of course, largely upon the organization and efficiency of the former. In well-organized communities, such as is usually found in the larger cities, it is wisest to deal with the cases at the place of development rather than to attempt any transportation. In some of the more scattered cases, which will come under the jurisdiction of the county boards of health, oftentimes the intervention and usually more rigid management of the state authorities is unquestionably required. This occasionally will meet with some local opposition by individuals who may regard it as an act usurping the local rights, but experience had shown that a great many personal interests are constantly at stake and these often tend greatly to hamper the thoroughness of the physician in charge. Upon the outbreak of one or more cases in a locality, a competent physician should be placed in charge and be given as nearly as possible absolute power. By so doing, all unnecessary and dangerous delay, which results from debates and diversities of opinion and interests, will be avoided and a better concentration of action be obtained. The physician in charge should be in communication with the Board of Health, preferably by means of a telephone from the infected district. In this way he will avoid much unnecessary traveling about, which, even though all precautions are observed, tends to unnecessarily alarm the community.

The strongest possible police co-operation should be obtained, in order to prevent the numerous acts, which are almost certain to occur, in a disregard to the orders, and vigorous legal prosecution should be instituted at once upon the least wilful infringement of quarantine regulations.

This is necessary, because if the slightest laxness is permitted in the beginning, it will be almost an impossibility to again establish the necessary discipline. Great care should be exercised also, in the granting of any privileges, which might be construed as special dispensations. Again, in all epidemics there will always be found floating about all kinds of reports and rumors, which tend to keep the community in an unnecessary state of excitement and have an injurious effect upon all commercial enterprises of the locality. In order to avoid this as much as possible, we have found it a satisfactory plan to make a daily official report to the newspapers, stating the exact condition of affairs as nearly as possible, without exaggerating or belittling any feature of the situation.

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* Read in Symposium on Smallpox, in the Section on Practice of Medicine, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

The question of treating the cases in their own homes is an ever-present one, and in many cases must be considered seriously. In the finer houses this can frequently be done with some degree of satisfaction. There will, of course, be a larger amount of furniture, hangings, carpets, etc., to disinfect subsequently, and there are liable to be more people exposed to infection; but, on the other hand, the people are more apt to follow directions intelligently and not to try wilfully to deceive the authorities. A special room is more easily devoted to the purpose and special nurses can more readily be obtained. In the poorer class of houses it is often difficult to obtain complete isolation or care and frequently less intelligent nursing will be obtained. In the case of tenement houses, the treatment at the home should not for a moment be considered. As a general rule, it may be stated that the treatment of smallpox in a private house is at best but a makeshift.

As soon as the authorities are informed of a suspicious case, it should be isolated completely for a few days, until further development of the symptoms render diagnosis certain. During this time no one but the physician in charge and the nurse should, under any circumstances, be allowed to enter the room, for, although the chances of infection at this stage are comparatively slight, still there is always a possibility of transmitting the disease, and the additional risk of permitting visitors in the sick-room is not justified. All articles which the patient uses, such as knives, forks, dishes, etc., should be well boiled before being used by anyone else.

If, in the course of a day or so, the characteristic symptoms and eruptions appear, making the diagnosis certain, the patient should be removed immediately to a hospital devoted to the care of such cases. All persons who have been exposed to the patient should be immediately vaccinated and kept under surveillance for a period of fifteen days from the last possible chance of their having been infected. The room and all its furniture should be disinfected, as mentioned later. No pains should be spared to determine the source from which the disease was contracted, as, by so doing, we may frequently be able to find a large number of persons who may have been subsequently exposed to the same source of danger, and who, therefore, should also be vaccinated and watched by the health authorities.

In some places, for financial reasons, it has been the custom to allow all persons known to have been exposed, to go about absolutely unhindered during a period of incubation pending the development of further symptoms. First obtaining, however, a promise from such persons to report to the authorities in case any symptom of the disease manifests itself. We can not condemn this method too severely, for it can not be applied to all cases, for the reason that, unfortunately, many people will use the time thus gained to make good their escape from the community, or, if they develop a mild case, will occasionally fail to report it until the disease is well developed and many more people have been exposed. It is true that if proper precautions are taken to disinfect the clothes and persons of the ones suspected, comparatively little danger will be produced by this system, providing that we have the intelligent and conscientious assistance of the persons exposed. As this is not possible, however, we can not make special laws or regulations for certain individuals during an epidemic without creating too great an opposition from public sentiment, particularly from those quarters from which we naturally expect and invariably find the greatest opposition to any sanitary regulations.

In large cities it is generally an easy matter to obtain a large building for the organization of a pest-house, and this can usually be done very satisfactorily. In the less densely populated locality, however, tents offer the most convenient and efficient means of isolation. They are cheap, easily procured, can be erected immediately, and, from the standpoint of the patient, are probably more wholesome than buildings. If possible, two large tents and two or three smaller ones should be obtained. The two large ones can be utilized respectively for male and female patients. One of the smaller ones as a kitchen and commissary department, another for the physician in charge and his assistants, in which may also be kept the medical stores and, if possible, above all things, a telephone. The tents should be floored with matched boards or sawdust to a depth of one or two inches, should be provided with good flies, and be well ditched. If possible, they should be upon high, sandy ground and not within 300 yards of other residences. If the weather be cold, they can be easily heated by small stoves placed near the center of the tent, and we have found that the small wood-burning stoves give better satisfaction and can be tended with less trouble than the larger coal stoves. Cots can be obtained cheaply, and straw mattresses easily improvised. Two sets of bedclothes will usually be found sufficient and should be boiled and changed alternately every two days. The cooking can be done in one tent and brought and deposited on a table just outside of the hospital tent, from which place the nurses can carry it to the patients. All unused remnants from the plates should be thrown into the fire, and the dishes, etc., dropped into boiling water by the nurses before being handled by the cook. In this disease, as in many others, much depends upon the nursing, and it is a poor economy which seeks to save unduly in this respect. Night and day nurses are indispensable where there are many or severe cases.

Where there are quite a number of cases to handle a horse and wagon is almost a requisite. Arrangements should be made with the merchants of a town to furnish all necessary articles. These can be ordered by telephone and delivered to the edge of the quarantined line, where they are called for by a guard or a wagon and carried to headquarters. In this way, there is no exposure of the deliverer in handling supplies, and no time is lost in receiving them. Strict account of all articles ordered should be kept by the physician in charge and handed in with his report.

As soon as the patient leaves his house, whether recovered or removed to a hospital, the premises and all articles, which have in any way come in contact with him, should be disinfected. Everything possible should be burned. The carpets may be removed and disinfected, where possible, by being ripped into the original strips and placed in the steam autoclaves, or, where these are not available, may be thoroughly sprinkled with formalin. For articles of clothing or finer articles, such as draperies or curtains, a tight, wooden box may be improvised, into which they may be placed and liberally sprinkled with formalin. Other articles, as sheets and pillow-slips, should be boiled and the contents of the pillows and mattresses, in case they can not be burned, should be exposed to the air of the room during subsequent fumigation.

All wooden articles, the floor, walls and ceilings should be thoroughly sponged with a 1 to 1000 solution of bichlorid of mercury. In the houses which are tightly built, formalin may give good results, but in our work in Tennessee, we have not been satisfied with any of the forms of formaldehyde generators which we have tried. This possibly can be accounted for by the fact that most of the houses in which the disease has been present have been of the poorer class of negro hovels. It is impossible to render these even approximately air-tight. In these cases, we have found that sulphur has given the best results, and have used relatively large quantities of it, burning several piles of ten pounds each in a room at the same time, in order to liberate as large a volume as possible of sulphur dioxid at a time, care being taken to make the room as tight as possible. Near the hospital tents, pits are dug and filled with quicklime, for receiving all discharges and waste material, and the discharges are mixed with an equal volume of a saturated solution of ordinary chlorid of lime and allowed to stand a half hour before being thrown out.

When a patient is ready to leave the hospital, he is made to thoroughly bathe himself and shampoo his hair. He resumes his clothing, which has been sterilized thoroughly. A large dry-goods box may be rendered air-tight by coating the inside with a mixture of equal parts of resin and paraffin, which is melted and poured into all cracks and crevices.

The clothes may be placed in this and sufficient formalin added to moisten them, when the lid will be closed, and they are allowed to remain for twenty-four hours. This has always proved satisfactory in our work and does the clothes no injury.

When the epidemic is terminated all the cots and bedding, together with the tent-floors, should be burned, and the tents themselves thoroughly saturated with a 1 to 1000 solution of bichlorid of mercury. The ground under and around the tents can be sprinkled with a saturated solution of chlorid of lime. When the tents have dried and been allowed to air for a day or two they should be taken down and stored away for future use, without fear of carrying any infection; the ropes must be burned.

At present there are practically two methods of vaccination in use, that with a dry point, and with the glycerinated lymph. The latter is unquestionably the best, but, unfortunately, has its drawbacks. Elgin has shown that in the dry points the pus-producing bacteria will live long after the virus of vaccinia has lost its potency, so that we not infrequently will find, as a result of vaccination with old points, septic arms, which, while they may be extremely sore, have absolutely no protective value. On the other hand, the glycerinated lymph in a short while becomes comparatively sterile as far as pyogenic organisms are concerned, but the virus loses none of its potency.

One of the main objections to the glycerinated lymph is, that it requires a long time to dry, and, that being somewhat viscid, it tends to cause foreign substances to adhere while it is exposed to the air. In this way we have a constant liability to infection at the time of inoculation. In order to obviate this I have introduced into Tennessee this year on a large scale, the hypodermic needle as a means of introducing the vaccine beneath the skin. I have not had an opportunity to search the literature of the subject to see whether this method has been used by other workers in the field. The writer first employed this method in Philadelphia in 1895, at which time he used an aqueous solution from the dry points. Later, however, when the glycerinated lymph came more into vogue, that was substituted for the aqueous solution, with the result of an almost perfect method of vaccination.

In order to use this method a solid-piston hypodermic needle is used, and, if a large number of vaccinations are to be performed, the barrel of the needle may be filled with the glycerinated lymph, which may be obtained in large tubes, containing sufficient of the lymph for fifty cases. A short and rather large caliber needle is most satisfactory. The skin is cleansed in the usual way and a drop of the lymph injected, with the concave surface of the needle downward. In this way the drop of lymph is forced between the epithelial cells and diffuses in exactly the locality desired. As a rule, a single minim is sufficient, although we have injected upward of ten minims without deleterious results. Another advantage of this method is, that in cases of compulsory vaccination the virus can not be removed by washing, as is frequently done when the ordinary point is used. Again, in the South, where we have a large colored population, there exists among them a universal superstition which leads them to expectorate into the vaccination, with the almost constant result of a septic sore. This not only is undesirable for the patient, but is also a menace to the safety of the community, because this septic sore is not protected, while believed to be so, and the result is a feeling of false security. It also offers a pseudo-argument for a class of anti-vaccinationists and individuals, who, from one motive or another, are but too glad to deny the existence of the disease, or who, through a process of vicious reasoning, try to assert that any disease which presents itself upon a vaccinated individual can not be variola. Then again, there is an absolute freedom from danger days after. If it does not "take," there will be no further inconvenience whatever, as no immediate dressing is necessary. The process is entirely painless, a point which will not be lost sight of in the case of a child or nervous patient, to whom the repeated scratching necessary in scarifying is generally extremely irritating. The great rapidity with which the process can be carried out is of great value where large numbers must be immunized in a short time.

A materially larger percentage of successful results will be obtained in this way than by simple scarifying, and we have repeatedly had cases develop a typical, clean vaccination, which had proved refractory to several previous vaccinations with points.

We also believe that by repeated vaccinations by this method, and by slightly increasing the amount injected, that a higher grade of immunity can be produced than where the point is used. The writer has immunized himself in this way and performed some dozens of autopsies with bare hands upon smallpox cadavers, without any further inconvenience than a slight septic infection of two fingers on the left hand. It can not be said that the same immunity might not have been produced by vaccination with the point, but reasoning from the analogy of other immunizations, we should be able, by using and getting absorption of a larger amount of the virus, to develop a higher resistance to the disease.

Where it is possible to handle the work in any other way, extensive quarantines should not be executed, and where they are, it is most usually an evidence of inefficiency of the local boards, which should have charge of the outbreak. When, however, a quarantine is decided upon as a necessary step, it should consist of at least two separate areas. One to be used by the sick, the other as a camp of detention, in which suspected or exposed cases may sojourn until the presence or absence of the disease can be determined, then their case can be dealt with accordingly.

In the case of large establishments or mines, it often becomes a very serious question in the minds of the authorities as to the wisest course to pursue. If the case has been recognized early and but few of the employes have been exposed, it is manifestly unjust to require the closing of the entire establishment. But, on the other hand, if precautions are not taken there may result a very serious outbreak of the disease. In these cases, if the co-operation of the managers can be obtained, a universal compulsory vaccination, and directions that foremen keep close watch upon all employes for any evidences of sickness, and that any employe who may not be well be returned home until entirely recovered, will generally prevent danger of a severe outbreak. But if, as unfortunately is sometimes the case, the management evinces an inclination to deceive the authorities, the whole institution should be uncompromisingly closed for a period of fifteen days. By that time any which were infected at the time will have developed.

In a mine, where the working population is of a floating class, a compulsory vaccination, with the issuing of individual certificates bearing the name and description of the holder, should be instituted and the foremen instructed to see that each man under his direction be provided with such certificate before being allowed to work. This will usually be sufficient, but we have found in some cases that it was further necessary to send inspectors occasionally through the plant to see that each individual had with him his certificate.

Again, as unscrupulous physicians have been encountered who have issued spurious certificates of vaccination over their own signatures, or who have wilfully made sterile scarifications to simulate vaccination, it may at times be wisest for the physician in charge to recognize or accept absolutely no certificate but his own or that of his assistants, thereby avoiding all personal discrimination, and, by revaccinating all doubtful cases, be positive of having discharged his duty to the best of his ability.

THE DIAGNOSIS OF MILD AND IRREGULAR SMALLPOX AS FOUND IN THE PRESENT OUTBREAK IN THE UNITED STATES.*

HEMAN SPALDING, M.D.

CHIEF MEDICAL INSPECTOR, DEPARTMENT OF HEALTH, CHICAGO.

In this paper I will mention and describe only the cases of smallpox which have come under my personal observation during the past two years. Previous to 1899 Chicago had been practically free from smallpox for more than a year, having had but one case in 1898. From March 9, 1899, to the present time—about 27 months—310 cases of smallpox have been found in Chicago. Sixty-four of these in various stages of the disease were imported into the city from nineteen of the surrounding states. The cases came from as far east as New York and as far west as California. In the meantime, I visited three of the neighboring states where the diagnosis of this disease, variously called impetigo contagiosa, giant chicken-pox, Cuban itch, or some other indefinite name, was in dispute. With this opportunity of observing cases imported from such widespread and various sources, I think it is fair to assume that the disease we call smallpox in Chicago is the same disease which has been the subject of controversy in all parts of the United States.

On February 15, 1899, a colored man and wife, named Edmonson, arrived in Chicago from Cincinnati, sick with smallpox in a mild form. A physician was called, who promptly made a diagnosis of chicken-pox and treated them for that disease. Several cases of smallpox resulted from this mistake in diagnosis. This was the beginning of periodic importations of smallpox to Chicago from neighboring cities and states, which have continued up to the present time.

From the date of the discovery of this first case, March 9, 1899, to August 16, 1900—17 months—we had 72 cases of smallpox, 25 of which were direct importations. From this last date, August 16, 1900, to November 30, a period of three and a half months, we were entirely free from the disease. This marked the end of the first influx of the much-discussed disease. On November 30, 1900, Charles L., in the pustular stage of smallpox, came to Chicago from Ashland, Wis., over the C. & N.-W. Ry. He walked into the City Hall, mingled with the crowds in the halls and elevators, visited various departments of public service and finally came to the Department of Health, where he was safely cared for. The day before this man arrived the Health Department had issued a warning to the public to vaccinate and revaccinate, as smallpox was to be found in all of the surrounding states. This case from Ashland was the beginning of a succession of importations and exposures which during the last six months have given us 238 cases of smallpox, 39 of which came from without the city. These two outbreaks of smallpox, with but three months intervening, gave us an opportunity to study 310 cases in the Chicago Isolation Hospital. Numerous forms of the disease were found. The typical case was always present, but the greatest number were deviations from this type. These deviations represented such a variety of forms that almost every case had something peculiar to itself, but the following classifications which I have made will aid in giving an intelligent description of the various forms:

1	Hemorrhagic case, resulting in death.
13	Confluent, with 3 deaths.
24	Semi-confluent, with 2 deaths.
54	Severe discrete cases, with no deaths.
179	Mild discrete cases, with no deaths.
39	Modified form—cases in which there was evidence of a more or less successful vaccination, with no deaths.

In this outbreak I have seen no cases of smallpox without eruption. I am satisfied this form—variola sine eruptione—exists. In the epidemic in Chicago of 1894-5, I carefully observed and studied thirty cases of this form. The evidence was conclusive to me that such cases exist. All the cases I saw of this form were in adults with old vaccination marks.

I have seen no cases with the initial rash in this present outbreak, though one man stated he had a rash over the body the second day of the disease, which disappeared the following day.

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The hemorrhagic case had no unusual features. It was not a typical case of purpura variolosa, as vesicles formed on the face and hands, though not elsewhere, before the hemorrhages took place. After severe prodromal symptoms with high fever for three and a half days, a diffuse redness with thickly studded spots that seemed to be slightly infiltrated appeared on the hands, wrists and face. As this change in the skin appeared, the temperature dropped to normal and the headache, backache and nausea had ceased. This attempt at a variolus eruption went no further except on the hands and face, where small, flat, imperfect, confluent vesicles could be discerned. The skin became dark-red or copper-colored with general diffused inflammatory swelling; petechial spots appeared in the skin, and hemorrhages from the mucous membranes became constant. Deep-seated hemorrhages under the skin could be seen, dark-blue and bulging, giving the appearance of a bullet buried beneath the integument. The man died on the sixth day of the disease.

The typical confluent form is well described in numerous books, but as it is necessary to keep in mind the typical case as a basis from which to study all cases deviating from this type, I will briefly mention the essential symptoms. All cases, no matter how mild, will, in a more or less modified, imperfect way, follow the symptoms and clinical course of the typical case.

The typical case has a chill or a chilly feeling—a child often has a convulsion—followed by fever, sometimes high and sometimes not severe, nausea, pain in epigastrium, backache, headache usually frontal, dizziness, sweating during the initial febrile stage; the eruption appears the evening of the third or the morning of the fourth day, and as this eruption appears, the fever and all painful and distressing symptoms subside. The patient at this stage, if not prevented, will get up and walk about. The eruption, which is macular for a few hours, becomes papular, has a thick covering within the skin, which gives it the appearance of small shot forced up from below the skin, bringing with it this tissue as a covering. It feels like shot beneath the skin, if you care to feel of it. As a matter of fact, the papillary layer of the skin is not a part of the covering, but is involved in the inflammatory process. For diagnostic purposes, I think the most valuable distinguishing feature about smallpox is the fact that the papule develops next to the *cutis vera* and by extension downward always involves the true skin. This eruption first appears on the most vascular parts—forehead, nose, lips, throat, hands, wrists and penis. These papules at once begin to form into vesicles, and generally in 36 hours they appear to the eye as small vesicles, usually but not always depressed in the center.

About the fifth day the vesicle, with its thick, tenacious covering unbroken, and all the time enlarging, begins to appear opaque. It is the color of a pearl and is entering the pustular stage. The face is swollen and the eyes partly closed. At this stage, or a day or two later, the secondary fever begins. The pustules, with their thick investment which resists natural decay and accidental pressure, continue to fill and grow till the 11th or 12th day, when they begin to dry and by the 18th day of the eruption the pustules will have dried and dropped off, leaving large pigmented spots, and if the inflammation has been severe enough to destroy the skin, pitting will occur.

Besides the 13 confluent cases, we had two that were abortive confluent, which were very interesting. The cases had all the classical symptoms of smallpox up to the 6th day of the eruption in one case, and the 5th day in the other. Both were pustular, and secondary fever was present. They were very sick and in one case I predicted a fatal termination. At this stage of the disease the fever disappeared and the pustules which were undersize for the 5th and 6th days, stopped filling, rapidly dried and had scaled off in the next five or six days. These patients, who were in a serious condition on the 5th and 6th days, were walking about the ward three days later. When desquamation was completed, at the site of the pustules there was infiltrated, inflammatory thickening of the skin. These were aborted cases known as hornpox (variola cornea), but I have described them here because they were confluent and the subjects had never been vaccinated.

The semi-confluent form, 24 in number, followed closely the symptoms and course of the typical case and needs no separate description.

The severe discrete form numbered 54. These followed closely the symptoms and course of the typical case. Under this form I have classed several cases which have been designated by the various writers as variola corymbosa. These are cases having thickly studded patches or clusters of pustules resembling herpes zoster. These patches are usually more advanced in the course of development than the lesions on the other parts of the same subject. There is nothing puzzling about a case of this kind, and to avoid mistakes it is only necessary to know that such cases are occasionally to be seen. A severe irritation of the skin in a smallpox patient will produce a cluster of lesions the size of the surface so irritated. A mustard plaster will have a similar effect. In one case a confluent patch as large as a hand appeared on a man's leg above the knee as the result of friction of a shovel handle which the man was using while in the prodromal stage of smallpox. One patient had clusters of thickly-studded pustules following the intercostal nerves on both sides of the spinal column. It resembled a double herpes zoster. Two reputable physicians, both familiar with smallpox, pronounced this herpes zoster, but after observing the case for several days, changed their diagnosis and reported it to the health department. The man had all the clinical symptoms of smallpox, with a discrete, general eruption in addition to the clusters on the back.

The mild discrete form, 177 in number, presented a great variety of deviations from the typical case. It is astonishing that there should be 177 mild, discrete cases in unvaccinated subjects out of a total of 310 cases of smallpox. None of these had ever been vaccinated, yet the disease was so mild that nearly all of them would have been wandering about the city or attending to business if some one had not stopped them. In these mild cases numerous deceptive aspects are presented. In a majority of the cases the eruption will appear after two days of prodromal symptoms instead of the evening of the third or the morning of the fourth day, as is usual. In some instances there were violent prodromal symptoms, chills, high fever, headache, backache and profuse sweating, followed by so insignificantly few eruptions as to be misleading to a physician who is inexperienced in the diagnosis of smallpox and somewhat surprising to the experienced doctor. More often the prodromal symptoms are very irregular and insignificant, as well as the eruption. There was sometimes absence of headache, and frequently the backache was wanting. Nausea was a pretty constant symptom in all upon as a necessary step, it should consist of at least two separate areas. One to be used by the sick, the other as a camp of detention, in which suspected or exposed cases may sojourn until the presence or absence of the disease can be determined, then their case can be dealt with accordingly.

In the case of large establishments or mines, it often becomes a very serious question in the minds of the authorities as to the wisest course to pursue. If the case has been recognized early and but few of the employes have been exposed, it is manifestly unjust to require the closing of the entire establishment. But, on the other hand, if precautions are not taken there may result a very serious outbreak of the disease. In these cases, if the co-operation of the managers can be obtained, a universal compulsory vaccination, and directions that foremen keep close watch upon all employes for any evidences of sickness, and that any employe who may not be well be returned home until entirely recovered, will generally prevent danger of a severe outbreak. But if, as unfortunately is sometimes the case, the management evinces an inclination to deceive the authorities, the whole institution should be uncompromisingly closed for a period of fifteen days. By that time any which were infected at the time will have developed.

In a mine, where the working population is of a floating class, a compulsory vaccination, with the issuing of individual certificates bearing the name and description of the holder, should be instituted and the foremen instructed to see that each man under his direction be provided with such certificate before being allowed to work. This will usually be sufficient, but we have found in some cases that it was further necessary to send inspectors occasionally through the plant to see that each individual had with him his certificate.

Again, as unscrupulous physicians have been encountered who have issued spurious certificates of vaccination over their own signatures, or who have wilfully made sterile scarifications to simulate vaccination, it may at times be wisest for the physician in charge to recognize or accept absolutely no certificate but his own or that of his assistants, thereby avoiding all personal discrimination, and, by revaccinating all doubtful cases, be positive of having discharged his duty to the best of his ability.

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* Read in Symposium on Smallpox, in the Section on Practice of Medicine, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

The hemorrhagic case had no unusual features. It was not a typical case of purpura variolosa, as vesicles formed on the face and hands, though not elsewhere, before the hemorrhages took place. After severe prodromal symptoms with high fever for three and a half days, a diffuse redness with thickly studded spots that seemed to be slightly infiltrated appeared on the hands, wrists and face. As this change in the skin appeared, the temperature dropped to normal and the headache, backache and nausea had ceased. This attempt at a variolus eruption went no further except on the hands and face, where small, flat, imperfect, confluent vesicles could be discerned. The skin became dark-red or copper-colored with general diffused inflammatory swelling; petechial spots appeared in the skin, and hemorrhages from the mucous membranes became constant. Deep-seated hemorrhages under the skin could be seen, dark-blue and bulging, giving the appearance of a bullet buried beneath the integument. The man died on the sixth day of the disease.

The typical confluent form is well described in numerous books, but as it is necessary to keep in mind the typical case as a basis from which to study all cases deviating from this type, I will briefly mention the essential symptoms. All cases, no matter how mild, will, in a more or less modified, imperfect way, follow the symptoms and clinical course of the typical case.

The typical case has a chill or a chilly feeling—a child often has a convulsion—followed by fever, sometimes high and sometimes not severe, nausea, pain in epigastrium, backache, headache usually frontal, dizziness, sweating during the initial febrile stage; the eruption appears the evening of the third or the morning of the fourth day, and as this eruption appears, the fever and all painful and distressing symptoms subside. The patient at this stage, if not prevented, will get up and walk about. The eruption, which is macular for a few hours, becomes papular, has a thick covering within the skin, which gives it the appearance of small shot forced up from below the skin, bringing with it this tissue as a covering. It feels like shot beneath the skin, if you care to feel of it. As a matter of fact, the papillary layer of the skin is not a part of the covering, but is involved in the inflammatory process. For diagnostic purposes, I think the most valuable distinguishing feature about smallpox is the fact that the papule develops next to the *cutis vera* and by extension downward always involves the true skin. This eruption first appears on the most vascular parts—forehead, nose, lips, throat, hands, wrists and penis. These papules at once begin to form into vesicles, and generally in 36 hours they appear to the eye as small vesicles, usually but not always depressed in the center.

About the fifth day the vesicle, with its thick, tenacious covering unbroken, and all the time enlarging, begins to appear opaque. It is the color of a pearl and is entering the pustular stage. The face is swollen and the eyes partly closed. At this stage, or a day or two later, the secondary fever begins. The pustules, with their thick investment which resists natural decay and accidental pressure, continue to fill and grow till the 11th or 12th day, when they begin to dry and by the 18th day of the eruption the pustules will have dried and dropped off, leaving large pigmented spots, and if the inflammation has been severe enough to destroy the skin, pitting will occur.

Besides the 13 confluent cases, we had two that were abortive confluent, which were very interesting. The cases had all the classical symptoms of smallpox up to the 6th day of the eruption in one case, and the 5th day in the other. Both were pustular, and secondary fever was present. They were very sick and in one case I predicted a fatal termination. At this stage of the disease the fever disappeared and the pustules which were undersize for the 5th and 6th days, stopped filling, rapidly dried and had scaled off in the next five or six days. These patients, who were in a serious condition on the 5th and 6th days, were walking about the ward three days later. When desquamation was completed, at the site of the pustules there was infiltrated, inflammatory thickening of the skin. These were aborted cases known as hornpox (variola cornea), but I have described them here because they were confluent and the subjects had never been vaccinated.

The semi-confluent form, 24 in number, followed closely the symptoms and course of the typical case and needs no separate description.

The severe discrete form numbered 54. These followed closely the symptoms and course of the typical case. Under this form I have classed several cases which have been designated by the various writers as variola corymbosa. These are cases having thickly studded patches or clusters of pustules resembling herpes zoster. These patches are usually more advanced in the course of development than the lesions on the other parts of the same subject. There is nothing puzzling about a case of this kind, and to avoid mistakes it is only necessary to know that such cases are occasionally to be seen. A severe irritation of the skin in a smallpox patient will produce a cluster of lesions the size of the surface so irritated. A mustard plaster will have a similar effect. In one case a confluent patch as large as a hand appeared on a man's leg above the knee as the result of friction of a shovel handle which the man was using while in the prodromal stage of smallpox. One patient had clusters of thickly-studded pustules following the intercostal nerves on both sides of the spinal column. It resembled a double herpes zoster. Two reputable physicians, both familiar with smallpox, pronounced this herpes zoster, but after observing the case for several days, changed their diagnosis and reported it to the health department. The man had all the clinical symptoms of smallpox, with a discrete, general eruption in addition to the clusters on the back.

The mild discrete form, 177 in number, presented a great variety of deviations from the typical case. It is astonishing that there should be 177 mild, discrete cases in unvaccinated subjects out of a total of 310 cases of smallpox. None of these had ever been vaccinated, yet the disease was so mild that nearly all of them would have been wandering about the city or attending to business if some one had not stopped them. In these mild cases numerous deceptive aspects are presented. In a majority of the cases the eruption will appear after two days of prodromal symptoms instead of the evening of the third or the morning of the fourth day, as is usual. In some instances there were violent prodromal symptoms, chills, high fever, headache, backache and profuse sweating, followed by so insignificantly few eruptions as to be misleading to a physician who is inexperienced in the diagnosis of smallpox and somewhat surprising to the experienced doctor. More often the prodromal symptoms are very irregular and insignificant, as well as the eruption. There was sometimes absence of headache, and frequently the backache was wanting. Nausea was a pretty constant symptom in all mild cases. Except the fever, I think it was the most constant symptom. Close inquiry brought out the fact that there was always some fever. The presence of the chill or chilly feeling was frequently denied. The symptoms were so mild in most cases as not to stop the subject from his work. The patient always felt better as soon as the eruption appeared, no matter how mild the symptom. If he had stopped work for a couple of days because of indisposition, he would return to work in most instances when the eruption on the skin appeared. I have found men in this form of smallpox in the pustular stage of the disease, working in printing houses, packing houses and factories. They felt no inconvenience and were not aware of the nature and danger to others of the disease with which they were afflicted.

The secondary fever in these mild cases was rarely present. In the mild discrete form were found numerous abortive cases. In these cases most of the vesicles were conoid, though a few usually would show umbilication. There was frequently an appearance of a difference in the age of the vesicle, some twenty-four to forty-eight hours in advance of others. These cases resembled modified smallpox. In three or four days the vesicles became dried pustules, and in eight or ten days desquamation was complete. The form known as wartpox (variola verrucosa) was occasionally seen. In these cases no vesicle was formed. The lesions remained papular; they enlarge by inflammatory infiltration, gradually dry up and scale off irregularly and imperfectly.

One of the cases remained in the hospital sixty days before he was through scaling. Another form, known as hornpox (variola cornea), was more frequently seen than this form. In hornpox the vesicle forms, but before it becomes pustular the contents of the vesicle are rapidly absorbed; a scab forms and scaling begins as early as the sixth day and is completed before the tenth day, or a couple of days later, if it is a confluent case. Some of the imperfectly filled vesicles dry up and have the color and appearance of pustules, but if cut into the contents are found to be dried, hardened and horny. In these cases no secondary fever is present, except for a day or two in the confluent abortive cases. The inflammation is not severe enough to destroy the skin and leave marks. When the vesicles dry up and fall off there is left a red nodule slightly elevated above the surface of the skin. This is an inflammatory infiltration, which is absorbed in a couple of months, leaving no scar. In some of these very mild cases, part of the vesicles were quite superficial, resembling chicken-pox in structure, but a careful examination always resulted in finding some deep-seated characteristic lesions with thick investment, which is the great distinguishing feature between chicken-pox and smallpox.

The modified form, 39 in number, represents cases in which the subject has some evidence of a successful vaccination, though none of more recent date than sixteen years. These 39 cases were all that entered the hospital with any signs of vaccination.

Right here I wish to say that the term "varioloid," meaning like smallpox, should no longer be used. The writers do not agree as to what to include under that name, some calling all mild cases of smallpox varioloid, while others include in the term only such cases as are modified by vaccination. Frequently I have had to spend valuable time in explaining the identity of varioloid and variola to people afflicted with the former, and sometimes had considerable difficulty in inducing them to be sent to the Isolation Hospital, because their physician had told them the disease was varioloid, but had failed to explain to them that the term means mild smallpox. Many have the impression that varioloid is not smallpox, and think if they are taken to the Isolation Hospital while sick with the former disease they are liable to contract the latter. In other instances, people who were told they had varioloid took no precautions to prevent the exposure of others, because they thought varioloid less contagious than smallpox. The term is a useless one and confuses the laity. Smallpox is smallpox, mild or severe, and should be called by that name, or its equivalent, variola.

Under the modified form we had one confluent abortive case. This case was identically the same in every symptom and feature as the two abortive confluent cases described under the confluent form, and has been placed here only because he had an old, imperfect scar, said to be from vaccination. The scar was forty-five years old. Another irregular case was one of abnormal distribution. The man afflicted was 39 years old and said he was vaccinated when a child. The scar was imperfect and doubtful. The patient had the usual prodromal symptoms up to the third day, when the eruption made its appearance and the fever subsided. The eruption appeared confluent on the face and semi-confluent on the arms. No sign of any eruption appeared elsewhere on this patient. The case ran a typical course with secondary fever and recovered. I think both of the above cases were unmodified smallpox, but the presence of the old scar said to be from vaccination compels me to place them here as of the modified form. One subject, vaccinated thirty years previous, had the form of smallpox mentioned by the elder Flint as variola varicelloides. Smallpox was present in this case, but there was also present on the first day of the eruption large, round, well-developed vesicles identical with those found in chicken-pox. The vesicles disappeared in forty-eight hours and the smallpox ran a short course without secondary fever. I saw a similar case in the epidemic of 1894-95. Nearly all these modified cases ran their course and scaled off in from six to ten days without secondary fever. In this modified form we frequently found a condition which is generally recognized to be characteristic of chicken-pox and not present in smallpox, viz., as many as three stages of development of the lesions side by side. A few papules, numerous vesicles, some pustules, and even scabs, are found at the same time. These cases run their course and desquamate in six to eight days. In all these mild cases there will be some prodromal symptoms, with cessation of fever when the eruption shows, and though many of the vesicles may be quite thinly covered, some of the lesions will be deep-seated, invading all the layers of the skin.

The vaccinal status of these 310 cases was as follows: Five had typical old scars. The most recently vaccinated was sixteen years previous to the attack. This was a patient 40 years old whose statement may be doubted. The date of vaccination of the others ranged from twenty to fifty years previous to the attack. Nine had fair old scars, twenty-five had old, imperfect, doubtful scars. Two hundred and seventy-one never had been successfully vaccinated. All patients were carefully examined by three experienced physicians for evidences of vaccination and the record here given can be relied upon as correct.

An absolute diagnosis of smallpox can not be made before the eruptive stage, except in the hemorrhagic form. In all these mild cases there was a general conformity to the history and course of the typical case of smallpox. There was always the prodromal symptom with the subsidence of fever when the eruption appeared. But we have to remember that chicken-pox is sometimes preceded by prodromal symptoms and that chicken-pox attacks adults and that the prodromal symptoms in smallpox are sometimes irregular and slight, so that we are compelled in some cases to make the diagnosis on the character of the eruption alone, as presented to the eye. The diagnosis can be made, for there is a difference in the appearance to the eye and the clinical course of the development of the skin lesion. The smallpox lesion has a deeper origin than chicken-pox. The papule rests on the cutis vera and by inflammatory extension this tissue is implicated. Not all of the lesions are so deep-seated, but I was always able to find some of the vesicles with thick, tenacious investment which keeps the vesicle and pustule intact longer than is the case in chicken-pox. Chicken-pox lesions have only the outer layer of the skin for a covering. This covering is fragile, easily broken and is broken from the first to the third day of its growth. The vesicles or pustules of chicken-pox, no matter how robust, will not resist accidental violence or natural decay more than four days, except on the hands and wrists of an adult negro, where the covering of the pustule is so thick as to resemble or merge into the life history of smallpox lesions. The external layer of skin in an adult negro is thick, and the eruption of varicella here looks and feels like the papule of variola, but an examination of the lesion on other parts of the body will aid in determining the nature of the disease. Measles is a papular disease, and the first day of the eruption is often mistaken for variola. Such a mistake should not be made. In measles the fever is highest on the day of the eruption, while in smallpox this is a time when the temperature drops to the normal usually.

In making a diagnosis of variola, remember there are some prodromal symptoms in the mildest cases, if you are successful in getting the truth out of the patient; that when the eruption appears the patient will always feel better, unless there is present some intercurrent disease, and that the fever will subside as the eruption appears. Look for the early appearance of the eruption on the vascular parts, on the face, in the throat, on the wrists and hands, on the foreskin and glans penis. If you find a papule on the ears it will help in the diagnosis. Do not depend too much on finding umbilications of the vesicles; you will be disappointed in the mild cases, as it is often absent.

Of the 310 cases treated in the Chicago Isolation Hospital, but six died. It is this low death-rate in this epidemic that has led the laity and the inexperienced physician to doubt the diagnosis. To convince the inexperienced, the typical case must be constantly in evidence.

Why there should be so few serious or fatal cases in this outbreak I do not know, and I am equally ignorant as to why the epidemic of scarlet fever prevalent at the same time in Chicago has been so mild. Our knowledge does not reach far enough to say why one epidemic is severe and another mild in any of the epidemic diseases. These mild forms of smallpox are always present in all epidemics of this disease and have been recognized and written about from the time of Rhazas down to the present. In Chicago and elsewhere I have had no difficulty in making a diagnosis of smallpox. Occasionally chicken-pox was encountered, but I never met any disease not well known and described. The occasional occurrence of chicken-pox in adults always has been a source of confusion to medical men who are not in constant touch with variola and varicella and have not become perfectly familiar with the clinical aspects of the two diseases in all their forms. An unrecognized case of chicken-pox in an adult may account for some of the reported successful vaccinations in a subject recovering from smallpox. Dr. Rawlings, of the Isolation Hospital, vaccinated more than 100 who had recovered from the mildest form of this debatable disease, and in no instance did he get a successful result, though they had never been previously vaccinated. In Chicago we placed all patients with smallpox—hemorrhagic, confluent, and cases so mild that they would be at work if not prevented—in the same wards in the hospital. Of these, 271 never were vaccinated. None of these afflicted with the mild form of the disease contracted smallpox from the severe typical cases, of which variety we always had a few in the wards, making exposure prolonged and certain. If these mild cases in unvaccinated subjects had not been smallpox, with this prolonged exposure numerous cases of smallpox would have resulted. Another fact to be remembered is that these irregular mild cases have conveyed typical confluent smallpox to other members of the family. One of the wandering variety, singing in concerts in various towns, had her case diagnosed as chicken-pox by several physicians in two states, yet she conveyed the disease to four members of her family, one of whom died of confluent smallpox in its most hideous form. This mild form of the disease gives immunity from smallpox and will transmit typical, confluent, or hemorrhagic smallpox. Of this we have had abundant proof in Chicago. Further, the disease follows the rule of smallpox in attacking exclusively those not protected by vaccination.

THE DISTINGUISHING CHARACTERISTICS BETWEEN MILD DISCRETE SMALLPOX AND CHICKEN-POX.*

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There are probably no other diseases, surely no other contagious diseases, so commonly mistaken one for the other as is the case in smallpox and chicken-pox. The error is seldom made of calling chicken-pox anything else than what it is, while some physicians are loth to acknowledge smallpox by its right name. They prefer instead to call it pustular syphilis, acne, bromism, chicken-pox; they go out of their way, seemingly, for names like Cuban itch, Philippino rash, yaw, etc. It is quite remarkable how persistent we have been that smallpox must be something else. It would look as though the profession had fairly forgotten about the discrete form of this disease. Physicians, as well as laymen, may have pictured in their minds the repulsive confluent or hemorrhagic variety to the exclusion of the milder kind.

Discrete smallpox is sometimes so extremely light, that medical men who have formed their conceptions of the disease from descriptive lectures and pictures, do not understand how so simple an ailment can possibly be smallpox, and, rather than create a panic by naming it variola, they are often persuaded to call it by some milder term.

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* Read in Symposium on Smallpox, in the Section on Practice of Medicine, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

From all sections come reports of the benign character of the present epidemic of the disease, several hundred cases without a death being known. Take the whole country over, the mortality will not exceed an average of 2 per cent. Such a favorable prognosis can hardly be made in any of the other eruptive fevers, excepting, perhaps, the single one of chicken-pox. In fact, many of the cases are little, if any, worse than vaccination. If it were not for the fact that now and then a patient has the severe confluent form with consequent pitting, or dies with variola hemorrhagica, I, for one, would advocate letting the contagion run its course.

To one familiar with both diseases there seems almost no similarity, no matter how mild may be the smallpox or how severe the chicken-pox. Personal observation of many hundred cases of both diseases has emphasized the distinguishing differences as stated in our text-books. I shall not attempt anything more than a reiteration of what has already been said by some of our most trustworthy writers.

There have been no new diagnostic signs advanced, as far as I know, except the diazo-reaction of the urine, which is of relative value only, since it may occur in several other pathologic conditions. It is stated to be present in more than 90 per cent. of smallpox and absent in chicken-pox.

In the first place, a varicella is distinctly a disease of childhood. Nevertheless, like all other generalities, there are exceptions to the rule. We have all seen grown people with chicken-pox. With variola there is no age that escapes. The infant at the breast may take the disease from its grandparent, and vice versa. In one household I found the grandfather, grandmother, father and baby all sick with smallpox. The only one to escape was the mother, she alone having been vaccinated. It is stated that adults do not have chicken-pox oftener because they may have had it in infancy. Few are able to tell whether they have or not had the disease. On the other hand, smallpox is not so easily forgotten. Some one is likely to know, even though the patient himself has no marks to prove it.

The rule is almost absolute that smallpox attacks the exposed parts of the body, or more correctly speaking, the extremities, that is, the face, wrists, feet and ankles. Chicken-pox appears invariably on the covered or middle portions, like the thorax. The germ—doubtless the etiological factor in both ailments—of smallpox prefer those thicker portions of the cuticle, while the milder and less venturesome microbe of chicken-pox lays claim to the tender pasture-lands of the chest. At any rate one rarely sees a case of variola that the eruption is not threefold as profuse on the face and hands as on the thorax. Of varicella the reverse is quite as true. In determining the former I would examine the hands, in the latter the back. I have never found the eruption of chicken-pox on the palms of the hands or on the soles of the feet that had the characteristic shotty feel of smallpox, and indeed, only once have I found any eruption of chicken-pox on these surfaces at all, and then only a few delicate vesicles on the ball of one foot.

The eruption in smallpox undergoes definite progressive changes. First papules, then vesicles, and finally pustules. In chicken-pox we seldom see anything but vesicles, some few of which become slightly pustular. In the transition from vesicles to pustules we commonly find umbilication, more particularly about the face and neck. The smallpox vesicle becomes depressed at its summit when ruptured, but in chicken-pox it will collapse. Later the injured vesicle in one case will round up with pus, while in the milder disease it begins at once to desquamate and will disappear in a few days. The eruption in variola is multilocular and in varicella unilocular. One is a deeper inflammation than the other and forces its way up through the lower layers of the skin, while the whole process in chicken-pox is superficial and does not extend deeper than the horny layer. One is spoken of as "shotty" to the touch, while the other is "velvety." The eruption of smallpox is so firm and hard that at no stage is it easy to break down the lesion by pressure with the finger. A child with chicken-pox, however, will rupture the vesicles simply by moving about in the bed. Another distinguishing characteristic of the two eruptions is, that in smallpox there is uniformity, one pustule looking almost exactly like its neighbor. In chicken-pox there is marked dissimilarity and irregularity in their size and development. Then, too, the manner of erupting is somewhat different. In smallpox the crop is ripened at the same time, usually reaching its height in seven or eight days. In chicken-pox the vesicles that appear to-day are collapsed to-morrow and new ones may spring up in their stead. Altogether the process is seldom longer than three days reaching the stage of desquamation.

More marked than all, perhaps, are the clinical differences. Smallpox, even in the mildest form, has a pronounced prodroma. The invasion is so severe that the victims of the disease rarely fail to mention how badly they felt for a few days before breaking out. Headache, backache, high fever (104 to 105 F.), frequently accompanied with chill and vomiting, are typical symptoms. The temperature even in severe cases of variola drops as soon as the eruption appears. The other affection occasions discomfort and fever progressively proportionate to the severity of the attack—the worse one looks the worse he feels. It is a continuous fever, resolution taking place by lysis. The fever of smallpox is always intermittent. Upon the first appearance of papules the temperature returns quickly to normal, the subject of the disease seems well, and, though he may take on the contour of a nutmeg-grater, there is slight discomfort for several days, or until the beginning of pustulation. Even then it amounts to little or nothing in the mild discrete form of the disease.

No one, be he physician or layman, will look on even a moderately severe case of smallpox and call it chicken-pox. The whole difficulty has been with the mild form; at least 90 per cent. of the cases reported being of this type. Some of those examined by the writer have been so insignificant that quarantine seemed needless. Yet their true nature has been frequently demonstrated by noting the development of other and serious forms of the disease from exposure to these apparently harmless cases.

SUMMARY.

SMALLPOX.	CHICKEN-POX.
Any age.	*Childhood.*
Incubation, 2 weeks.	Incubation, 13 to 17 days.
Headache, backache, fever, gen. malaise; lasting 3 or 4 days.	No prodroma, or at most only slight indisposition.
Worst on the exposed parts—extremities; invariably on the palms.	Worst on the covered portions—thorax; rarely or never seen on the palms or soles.

SMALLPOX.	CHICKEN-POX.
Progressive eruption: papules, vesicles, pustules, crusts.	Vesicles and crusts.
Lesion includes the lower layers of the derma. Hard to rupture. Multilocular.	Lesion very superficial. Easy to rupture. Unilocular.
Temperature high (103-105) till eruption appears. Then drops and does not rise again for a week, and not then in the milder discrete forms.	Rises with the severity of the attack.
Eruptions quite uniform in size; has a reddened area at base; frequently umbilicated.	Not uniform. Also inflamed area about the vesicle, but less marked.
Painful to the touch; may itch.	Not painful to touch.
Lasts 2 to 4 weeks.	Lasts 1 week to 14 days.
Vaccination protects.	Does not protect.
Pits when confluent on face: will occasionally mark in the discrete form.	Seldom unless infected.
Generally no complications.	No complications.
High mortality in the severe confluent and hemorrhagic types.	Nil.
Resolution by crisis.	Resolution by lysis.

VARIOLA.*

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This disease has prevailed so generally throughout the United States since 1897 that time spent in describing it might well be considered wasted. That it has been remarkably mild in type every one who has had any experience knows, but in spite of this fact experts are practically a unit in their diagnosis. I am aware that at Atlantic City a year ago a member of this Association presented a paper, with a title made up largely of interrogation points, in which he attempted to prove that the disease as he had seen it in Tennessee was not variola, but this paper had not a single convincing argument to those who have had an opportunity of studying the disease, that it was anything else than variola.

In spite of the fact that this disease of mild type was epidemic in Kentucky and other Southern States in 1897; was well described by Dr. Wm. M. Welch, of Philadelphia, in 1898; and that one state after another during the past four years has been compelled to fight against the epidemic, we still find individuals who with little if any knowledge beyond that gained from medical books are willing to place their personal opinions against those of experts the country over, and who insist that the experts are wrong in calling it by its right name. These mischief-makers are found in the medical profession as well as among the laity.

Recognizing the fact that it is no longer necessary to discuss with experts the question as to whether this is or is not variola, it is my purpose to present certain topics, that should be of interest, for discussion.

It may be apropos to state that in Minnesota during the past two years there have been 7211 cases of variola reported, with 49 reported deaths. I wish to emphasize the word reported as applied to deaths, for I have positive knowledge that there have been deaths from this disease in this state reported as due to other causes, or not reported at all. Some of these errors have been committed innocently; others intentionally. A similar experience, I have no doubt, has been met with in other states.

It may be well in beginning this paper to ask whether the picture presented by the typical cases in this epidemic conforms with that given for variola in our medical text-books? There can be but one answer: It certainly does. Time after time during the past two years I have seen the classically described discrete, semiconfluent, confluent, and hemorrhagic forms, as also the variola sine eruptione. Can we be governed in our diagnosis of all cases in this present epidemic by the usual text-book descriptions of variola? Most assuredly no. We will in all probability find fairly typical prodromal symptoms, but the rash may vary in degree, in form, in type of progress and in final disappearance in a way that is described in but few text-books.

In Reynold's "System of Medicine" a mild form of variola quite similar to that of our present epidemic is well described. Various writers refer to the fact that an epidemic of varicella frequently accompanies an epidemic of variola. While this is possible, I am rather inclined to think that in the past the mild cases of variola have often been called varicella, and epidemics that have been said to represent two distinct diseases have in fact been only differences in degree of one and the same disease. It must be admitted that too often in the past have only the severely typical cases of various diseases been given their right name, while the mild cases of these diseases have been given some other name. This has been true of typhoid fever, of diphtheria, of variola, and even of scarlatina, in the past, and in each instance the result of such action has been to falsify and make much higher the mortality rates of these diseases.

Dr. Louis Leroy, of Tennessee, in his recent article on smallpox, draws attention to a mild type of variola described as early as 1827 by John Mason Good.[1]

A little reasoning on the part of a fairly intelligent physician should enable him to clear up or correct his doubtful diagnoses in the present epidemic. It often happens that the first cases in any given community are mild in type and in consequence wrongly diagnosed. Later, however, with the appearance of one or more typical cases, the disease should be properly designated, and with the line of infection recognized as one and the same it becomes plain that the first cases though atypical must also have been variola. For example: In a village in Minnesota several cases of an eruptive disease, occurring among school children, were called varicella. However, a typical case of variola presented itself, the patient dying; thereupon the attending physician said, this case being one of variola and the line of infection for this and the so-called varicella cases having been one and the same, our first diagnosis must have been wrong; the cases must all have been variola. His reasoning was good and his conclusions correct. In this village there were in all 64 cases, with 3 deaths.

Occasionally we find physicians who have made a mistake in diagnosis and who persistently hold to their errors. This was notably true in Winona, Minn., last winter, when from first to last there were over 2000 cases of variola with probably 7 or 8 deaths.[2] Several of the Winona physicians still hold to the diagnosis of varicella for their epidemic, in spite of sufficiently strong evidence to the contrary.

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* Read in Symposium on Smallpox, in the Section on Practice of Medicine, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

[1] Study of Medicine, vol. iii, J. & J. Harper, New York, 1827.

[2] Winona is one of the places that gave the returns of no deaths from smallpox, but I have good reasons to believe that my statement above is correct. In addition to the deaths there were undoubtedly cases of miscarriage due to the disease.

Does vaccination protect against this disease? Most assuredly yes. This has been thoroughly demonstrated. For example: Of 662 cases in 244 houses, but ten patients had been successfully vaccinated at any time prior to their infection, and of these ten, 30 years had elapsed since successful vaccination for two of them, over 25 years for four, 20 years for one, and 6 years for one. Only two of these ten were said to have had recent successful vaccination (three months prior) and in both of these the disease was mild. Of these 662 cases there was one who years ago had an attack of variola. In one family seven non-vaccinated individuals had variola; the one vaccinated member escaped. In one family four non-vaccinated members had variola, all the vaccinated escaped. In eight other families the vaccinated members escaped; while in each one of the eight families one, the only non-vaccinated individual, had variola.

In one instance a physician who was at first in doubt regarding the disease before him, wrote me: "One thing is certain, if this is smallpox vaccination does not protect against it." I at once made him a visit, and together we went over his patients, with this result; some had misstated facts to him, and had said they had been successfully vaccinated when the reverse was the case; others had told him of vaccination, but had neglected to state that it had not been successful. It was fully shown that in all successful recent vaccinations the individuals were in each and every instance protected from this disease.

Dr. Ohage informs me that from May 1, 1899, to May 10, 1901, there were in St. Paul 104 cases of variola. But 2 of these cases had been vaccinated—one fifteen, the other twenty years prior to contracting the disease. There was not a single instance in which a properly vaccinated person contracted the disease.

Dr. P. M. Hall, of Minneapolis, informs me that of 191 cases of variola that came under his care between the dates of January 7 and May 8, 1901, but one had any evidence of a previous successful vaccination, and that was in childhood. The patient was about 40 years old.

Regarding the protection furnished by vaccinia against variola, the Chicago Board of Health makes the following statement: "Out of the total 171 cases of smallpox found in Chicago between Nov. 30, 1900, and April 10, 1901, 140 had never been vaccinated. Of the remaining 31 cases, 29 were adults showing faint, poor or irregular scars, claimed to be evidence of attempted vaccination in infancy or childhood—the most recent being 23 years old. Only 2 out of the 171 cases exhibited typical scars of successful vaccination. Of these, one was 35 years old 'vaccinated when a child'; revaccination was attempted three years ago, without result; vaccine lymph was probably inert. The other was 40 years old, also successfully vaccinated in childhood, but never revaccinated. These are the only 2 cases out of the total 171 upon whom vaccination was ever successfully attempted, and the most recent of these was over 30 years ago. Since vaccination was made compulsory in the schools of Chicago, smallpox has disappeared from them. The requirement was first put into effect in 1867, and from that year until 1881 there were only 17 cases all told of smallpox and varioloid in the schools, and these are explained by the health department as due to the imperfect inauguration of the compulsory vaccination system. Since the latter date the disease has entirely disappeared. For twenty years the schools of Chicago have been immune from smallpox cases, for although four cases were reported last winter they were all pupils who had been let in on fraudulent certificates and who had never been vaccinated—a confirmatory proof of the efficacy of vaccination. Another significant fact of the same character is that since vaccination has been universally practiced by the police of Chicago the officers have been free from smallpox. The policemen go everywhere, into all the haunts of crime and disease, and are exceptionally liable to exposure. Yet though several thousand in number they enjoy immunity from the disease."

It may be well at this point to discuss the terms variola, varioloid, vaccinia and vaccinoid, and their relation to each other. There is an indefiniteness in these terms that is annoying. It would seem that there should not be two names for one and the same disease as presented by different degrees of severity, yet this is too often true in the use of these terms. People have such a dread of variola (smallpox), that a milder name is sought for. We thus too often find cases of severe type called by their right name, while the same disease under milder form is misnamed varioloid. This is a faulty, misleading and dangerous procedure. Under the term variola we should include all types of the disease in its unmodified form. Under the term varioloid we should include only those cases of variola which are modified by a previous infection. This, of course, should be recognized as not making of these two conditions two distinct diseases. So, too, of vaccinia and vaccinoid. The first presents to us a disease of typical form; the second a disease of modified form, the result of previous infection.

The nature of "previous infection" giving rise to varioloid or vaccinoid, requires some consideration, and to begin with we are confronted with the question as to the relationship of variola and vaccinia. Probably we are ready to admit that these two are in fact one and the same disease; that a successful and recent variola will prevent an immediate recurrence of this disease, or of an immediate successful unmodified vaccinia; so, too, that a recent successful vaccinia will prevent the immediate recurrence of this disease, as also of an immediate unmodified variola. It is not generally admitted, however, that a recent successful variola may be followed by a modified vaccinia called vaccinoid—quite the reverse. The statement is generally made by leading authorities that evidence of successful vaccination after an eruptive disease would positively exclude the possibility of the disease having been variola. In spite of the general admission of a possible varioloid after a recent successful vaccinia and the general denial of a possible vaccinoid after a recent successful variola, I venture to assert that vaccinoid may be present as the result of vaccination immediately following a successful variola as frequently as varioloid immediately following a successful vaccinia; in other words, that the appearance of a modified vaccinia (vaccinoid) following a recent variola does not disprove the disease diagnosed as variola to have been such. The possibility of having a second attack of variola (or varioloid) or of vaccinia (or vaccinoid) depends entirely upon the duration and degree of immunity conferred by a previous attack of variola or vaccinia. A recent vaccination is, in all probability, more marked in its protective action against variola than is an old variola.

The duration of immunity conferred by either variola or vaccinia depends upon the individual. In either case it may be for life, or for but a few months.

It is no uncommon thing to find those who insist that the present epidemic is not variola, trying to prove their point by following up the disease in a given individual with vaccination. Were such successful in securing vaccinia or vaccinoid, to me, they would not disprove the previous variola, but would rather establish the line of argument that I have just presented tending to show an insufficient immunity following a mild variola.

In passing, it may be well to draw the attention of those who are trying to disprove a variola by a subsequent vaccinia to the fact that there are opportunities of error which they must guard against most carefully. If vaccination is made during the progress of variola an eruption (variolus) will, in all probability, occur at the seat of scarification or irritation. This should not be mistaken for a successful vaccination. Even after the patient has fairly recovered from variola an appearance simulating vaccinia might be produced at the point of irritation. Dr. Pitblado, of Minneapolis, informs me that he has vaccinated a number of smallpox patients while in detention, and has in a number of instances succeeded in producing a rash at the point of scarification. But this rash was plainly that of variola. It is a generally recognized fact that the eruption of variola is apt to be confluent in form at any seat of special irritation, as along the line of a cut or scratch. Undoubtedly a modified variolus eruption at the seat of scarification for vaccination has been mistaken for a successful vaccination by not over careful observers who have shown themselves rather too zealous in their efforts to disprove the existence of variola among their patients. Still further, the eruption of variola and vaccinia may exist at one and the same time in a patient.

It is hardly necessary to refer to those who give an opinion of successful vaccinia when they have nothing upon which to base their opinion but the dry "scab" present as the result of too vigorous scarification. Yet in my own experience this condition has been pronounced a successful vaccinia and used to disprove my diagnosis of variola.

Since the epidemic in Minnesota first appeared, early in 1899, I have been closely watching for these reported "successful vaccinations" after variola, not for the purpose of disputing with those opposed to my diagnosis of variola, but in order to prove the line of reasoning already presented in favor of such possible occurrence. I might, therefore, be considered as one with prejudices favoring my antagonists' line of argument. In all my inquiries I have been able to find but one case that bears out the possibility of an immediate successful vaccination after variola, and this one case had vaccinoid, instead of vaccinia. Its history is as follows:

Early in the outbreak in Minneapolis, when the health officials of that city were denying the existence of the disease, a young woman in due time after exposure had mild prodromal symptoms and a very mild variolus eruption. When she had been released from quarantine she went to a physician and was vaccinated, her purpose being to bring suit against the city for wrongful detention in quarantine should she secure a successful vaccination, she having been informed that this would be absolute proof that she had not had variola. The physician who vaccinated her knew nothing of her intention. He revaccinated himself about this same time and secured the same result in both cases—a condition that would have been called a successful vaccination by some physicians, but which was undoubtedly vaccinoid, in the one case due to a previous variola, in the other due to a previous vaccinia. The young woman was pleased, and announced to her physician her intention to bring suit against the city. He, however, refused to accept the evidences of vaccinoid as sufficient to disprove a recent attack of variola.

The following cases demonstrate the possibility of a successful vaccinia following variola:

Case 1.—Male, vaccinated about March 1; reported as successful March 16. This party states that he had variola thirteen years ago. Has smallpox scars from the first attack.

Case 2.—Male, had variola in 1891. At the time was ill three weeks and was in quarantine seven weeks; was successfully vaccinated in March, 1901.

Case 3.—Mrs. S., said to have had varioloid in 1885, vaccinated successfully in spring of 1900.

Case 4.—Young woman, whose case has already been referred to in this paper, who was vaccinated immediately after release from quarantine for variola. She had vaccinoid.

Case 5.—Policeman who had variola twenty years ago, was successfully vaccinated February, 1901.

Case 6.—Paris case (20th Century, Vol. XIII, page 522). Woman had variola in 1868, at age of 32, and again in 1871; was successfully vaccinated in 1873, and upon six different occasions after this at intervals of six months. She was lost sight of after the sixth vaccination.

Every physician will admit that an individual may have variola more than once; also that there may be an attack of variola at some date following a successful vaccinia. Quite an interesting case of relapsing variola was reported to me March 25 of the present year. A young man had a typical history of variola and was about to be released from quarantine, when he was again taken ill with all the prodromal symptoms of the disease. He developed an eruption on the fourth day and was more seriously ill with this second than with the first attack. The physician in attendance assures me that he could not have been mistaken in his diagnosis of the first attack. Variola was epidemic in the village at the time.

The following are interesting cases as bearing upon immunity to vaccinia, but not to variola, or possibly to impaired immunity:

Case 1.—Dr. O. C., aged 30 years, had vaccinia when a child. In 1900 he was attending cases of variola, but did not contract the disease from the first cases. He revaccinated himself, but without success. He therefore considered himself immune to variola. A short time after, however, he contracted varioloid from a variolous patient whom he was attending.

Case 2.—Dr. P., aged 28 years, had vaccinia when a child. During the early part of 1900 he was in attendance upon cases of variola, but did not contract the disease. He vaccinated himself at this time, but without success. Shortly after this apparent immunity this physician, while suffering from septic infection received from a cadaver, was in attendance upon some severe cases (afterward fatal) of variola. He contracted the disease and was decidedly ill. His little boy, who had been apparently immune to vaccinia now contracted variola from his father and was seriously, although not fatally, ill. The physician's wife, vaccinated at the same time as her husband and child, had vaccinia and escaped variola.

Case 3.—Dr. F., aged 30 years, was apparently successfully vaccinated in 1898 and again in June of 1900, when he was attending cases of variola. He had occasion to attend a woman ill with variola during her accouchement, and to resort to instrumental delivery for the child. Nine days later he began to feel ill. These symptoms were prodromal of a variola of severe type. His wife and children, who had been recently vaccinated escaped the disease.

Case 4.—Mr. A., who had variola in 1880, was apparently immune to vaccinia in 1900, but not immune to a second attack of variola.

Case 5.—Mrs. P., aged 39, had "cowpox" when a girl. In 1900 she was apparently immune to vaccinia, but contracted variola.

Case 6.—Seven children in the family of Mr. G. were apparently immune to vaccinia, for repeated attempts failed to produce the disease. All seven of these children contracted variola, although resistant to vaccinia.

The following would seem to demonstrate immunity to variola, but not to vaccinia:

Dr. H. was successfully vaccinated at the age of 14 years, and again at 24. In 1900, at the age of 43, he had many cases of variola under his care. He revaccinnated himself five times at intervals of about four weeks. He obtained "partial reaction" to the first four of these and a "good scar" the fifth time. He did not contract variola. It would appear that while the immunity conferred by vaccinia against variola is quite positive, it may be limited in duration, and also in degree. This is equally true of variola against variola, and of vaccinia against vaccinia. It must also be admitted, I think, that there may be an immunity due to a previous vaccinia against vaccinia, but not against variola; as also an immunity due to a previous variola against vaccinia, but not against variola.

It is not my wish through these statements of facts to belittle the protective powers of vaccinia against variola, for of these I have already fully attested. We must, however, recognize the fact that there are exceptions to the general rule of immunity as regards both variola and vaccinia, and that we must not be too positive in our statements regarding the absolute protection of a previous variola or vaccinia against a repetition of one or the other disease, directly or interchangeably.

Before closing it may be well to ask ouselves the question: Is the present mild type of variola an unusual occurrence? In the United States, possibly yes; although this is an open question. Undoubtedly in the past when little or no attention was given to quarantine methods, mild epidemics of variola were ignored at the time of their existence and soon forgotten when once passed. The epidemics in which the disease prevailed in severe form were the ones which made a lasting impression upon all. Even in my limited study of the unrecorded mild epidemics, I have been able to secure records from residents of Minnesota which go to show that within the past thirty years there have been at least two localized epidemics in which the mortality from this disease was little, if any, greater than at the present time.

I believe it is generally recognized that variola does at times exist in very mild form in tropical countries. Of this I have no personal knowledge. On the other hand, variola may occur in most virulent form in tropical countries.

DISCUSSION ON PAPERS IN SYMPOSIUM ON SMALLPOX.

Dr. William Bailey, Louisville, Ky.—I am much pleased at the opportunity given me to open this discussion, although most of my remarks will pertain to the first paper read by my neighbor, Dr. Happel. I regard the teachings of the paper by Dr. Happel as unfortunate and hurtful, and I believe that its bad influence will not be confined to his own people, but to the people throughout the breadth and length of this country. It is difficult to control smallpox in Kentucky if we depend upon the teachings in Tennessee; whatever the disease may be in Tennessee, when it crosses the line into Kentucky it is smallpox.

Regarding his remarks about a farmer remaining a month without seeing a neighbor, I think that is a remarkable thing in Tennessee; at any rate, for a man to be in Tennessee with smallpox with no possibility of any man coming in contact with it for a month, seems a remarkable statement. It seems to me that the consensus of opinion, even among the experts, is that the disease prevailing is smallpox; I am certain that it is nothing else but smallpox and, in many instances, the severe case can be traced to a mild case where it is decidedly typical. Therefore, we must regard the disease that is prevailing at the present time as smallpox and we should take such measures for its control as are radical.

Dr. James J. Walsh, New York City—In discussing the question of modified smallpox, or pseudo-smallpox, it is well to remember certain advances that have been made in the recognition of exanthematous diseases in very recent years. During the last ten or fifteen years, the medical world has come to recognize the existence of a third disease in the measles and scarlet fever group of diseases. This new disease, German measles, is now admitted by practically all medical men to be absolutely independent of either measles or scarlet fever. Certain observations in England, especially during the last two or three years, seem to point to the fact that there is perhaps a fourth eruptive disease in this group, independent of measles and scarlet fever on one hand and also of German measles on the other.

It is perfectly possible then that a third disease, independent of varicella and variola, may be found in the smallpox group. Of course, board of health experts will not readily admit the existence of such a disease, if it does occur. They are paid to determine whether a disease is smallpox or chicken-pox, not to make observations on a possible third disease. Any hesitancy on their part might easily lead to serious dangers to the community. The mass of the medical profession, however, should not commit themselves to definite opinions on this subject. It would not be surprising to find many more exanthematous diseases. At the beginning of the century most of the eruptive diseases we now know were grouped together. For a long time measles and scarlet fever masqueraded as smallpox. We know that there are ten different kind of nutgalls in this country, all produced by the sting of different, but very closely similar insects and upon the same kinds of leaves. The possible characteristic reaction of the human skin are by no means exhausted, and we have recently learned from Professor Widal's work in Paris on cytodiagnosis in pleurisy that even the cells of the serous membranes react quite differently to different forms of microbic irritant.

It must be remembered that the Vienna school of dermatologists has never quite given up the idea that varicella and variola may be only modified forms of the same disease. Their influence is considered of so much importance in Europe that in the last important text-book of medicine, Professor Nothnagel's, the treatise on varicella begins with the discussion whether variola and varicella are due to the same cause and it takes up some six octavo pages. So acute a clinician as Senator has recently expressed the opinion that varicella and variola are due to the same cause and that varicella especially spreads at a time when smallpox has crept into a locality.

We have had some 30,000 cases of smallpox this year and the number is not diminishing. Opportunities are provided for the study of smallpox, such as we never had before. Careful observation of the disease as it exists at present should be made. Dr. Happel's work in calling attention to the differences which exist between the disease as he sees it in some parts of Tennessee, and classical smallpox is deserving of commendation, not condemnation. Further observation, not resolutions of medical societies, are needed to settle the vexed question of a possible third disease in the smallpox group.

Dr. Louis Leroy, Nashville, Tenn.—I concur very much with what Dr. Leavitt said about people approaching the disease and having such a very uncanny idea about it. In regard to leprosy people have been taught to think of this disease as nasty, uncanny and horrible in the extreme. The same is true of smallpox and the popular notion has even extended to medical friends who have seen very little of it, and whose idea of this disease is vague and hazy, and who expect that the patient should stand fifty feet away in the open air lest they should be exposed to the contagion. The intensity of the infection certainly varies a great deal, but, I have seen patients with typhoid fever who could not be made to take to the bed; also, cases of pneumonia and scarlet fever in children who could not be made to stay in the room; and yet, other children exposed to them, contracted the disease and died.

Why should we insist upon a dozen names for smallpox; there is but one smallpox. Giving the disease so many names has a vicious effect upon the public. Dr. Happel mentions that the severity of the disease following was not dependent upon the severity of the onset; that is certainly true, and I wish to call attention to the fact that text-books on practice say the same thing. The observations made are certainly in favor of smallpox rather than against it. As to the statement that there was no pitting, I would also call attention to what is said by many writers; they claim that, in the discrete types of smallpox, pitting is absolutely the exception. I was exceedingly glad to hear Dr. Bailey, of Kentucky, say that when the disease crossed the border line and got into Kentucky it became smallpox. I would like to say that there is no transition at that border line. I have had an opportunity of seeing a number of cases on that line and I have tried to prevent a good number of cases crossing the line. Near that Tennessee-Kentucky line there are a large number of light cases of smallpox. I made a diagnosis of smallpox at Clarkesville, Tennessee, and I was ridiculed, but I had the State Board of Health behind me, and the case was quarantined. This year I traced this epidemic successfully to the Tennessee side; in the epidemic there was a mortality of 60 per cent. I have here a number of photographs taken of that case which was diagnosed as pseudo-smallpox at Clarkesville and from which the epidemic was traced that gave a mortality of 60 per cent. If this is called "pseudo-smallpox" it is a term applied to something which should be killed before it becomes too common.

Speaking of the individual who went to school with an eruption on the body, I have one question to ask: If it was in the knowledge of the health officers that this case was one of smallpox or any other disease possibly contagious, what was the physician doing when he allowed this person to mingle with the school-children?

Dr. Happel—The health officer knew nothing about it until the disease had been there.

Dr. Leroy—How about the school teachers?

Dr. Happel—The school teachers were negroes.

Dr. Leroy—As to the statistics of vaccination I beg leave to read the following, taken from one of my former articles: "In one series of records made by the writer this year, 1100 miners were examined, variola having been prevalent in that locality for a year previous. Of that number 800 had been vaccinated and had passed through the epidemic unscathed. Of the remainder, 100 had suffered from the disease and 200 had neither had the disease nor been vaccinated. Of 30 odd cases suffering at the time in their midst not one had been vaccinated. Only in four instances did any of those who had had the disease show evidences of previous vaccination, and in one of these the mark was over twenty years old; the other three gave evidence of having been only septic sores and not typical vaccine scars."

Dr. William Thomas Corlett, Cleveland, Ohio—I am impressed with the fact that there is a great waste of energy here this year. Yesterday we showed a large collection of slides, in the Section of Dermatology, which would well illustrate many of the phases of variola described this morning. I consider myself fortunate in being able to hear the papers read, and I heartily concur in the general soundness of the views expressed. I had hoped, however, that I could congratulate myself on not hearing such a paper as was read last year at Atlantic City, which I believe has done much injury. In Cleveland we have a very extensive epidemic of smallpox, which has increased to 1000 cases since last January, and which I believe was brought about by the fact that many did not recognize the disease as being smallpox. Physicians who had had experience with the disease in former times ridiculed the idea that the pest-house contained a true case of variola. So far as I have been able to observe the disease which has been recognized as smallpox during the past twenty years presents a distinct entity, just as syphilis does. In regard to Dr. Leroy's method of vaccinating by means of the hypodermic syringe, I consider it a good one, although I have never used it, but it will bear further consideration. Another point made was that variola was often followed by a successful vaccination. About a year ago Dr. P. asked me to investigate this subject, but as I have always regarded the occurrence of a successful vaccination following variola as evidence of a mixed infection, the subject did not seem to me to be of sufficient importance to call for further investigation. Dr. Bracken says that he has seen successful vaccination following variola, and I must agree with him.

What I shall now say I know will be unpopular because of the great difference of opinion which prevails. I began the study of diseases of the skin by entering a smallpox hospital in 1882 in London, and during my time there I saw nothing but skin diseases and I never saw a case of varicella occurring in a person over 15 years of age. I do not deny that it sometimes occurs in adults; John Hutchinson has seen one, possibly two cases, of varicella in adults. Dr. J. Louis Smith has seen one case of varicella in an adult which he has referred to in his work. Still another case was referred to by Dr. Austin Flint. Therefore, when a case presents itself to me with a supposed diagnosis of varicella, in an adult, I am inclined to do as is recommended by the author of the paper on smallpox in Zeimmsen's Cyclopedia, in cases of supposed varicella occurring in an adult—to always treat the case as one of smallpox.

Dr. F. S. Raymond, Memphis, Tenn.—I want first to endorse Dr. Leroy's practique, as detailed in his paper, with reference to the management of smallpox hospitals. His paper is up to date, and such rules as he lays down should be carried out in the conduction of smallpox hospitals everywhere.

With reference to the papers of Drs. Spalding, Leavitt and Bracken, I must say they were all most excellent; the gentlemen have arrived at the same conclusions from the same line of reasoning which I have and which I believe to be correct. I endorse the three papers entirely, except Dr. Leavitt's statement that chicken-pox is a child's disease and never seen in the adult. I have seen a number of cases in adults, and even in people past middle age.

I beg pardon for consuming the time of so intelligent a body of men and women, discussing the only feature of this subject about which there is a discussion, namely, the diagnosis of this almost national epidemic of variola vera, and I hope such a discussion will not occur in this Association during the next fifty years, if I am so fortunate as to be in attendance at that time. I feel sure that 95 per cent. of all intelligent physicians, who have had opportunities to study this disease, believe and in fact know it to be genuine smallpox.

From personal observation, the disease and the special cases described by Dr. Happel in his paper are just such cases as we have been treating in our smallpox hospital near Memphis for five years, and I know that many of our cases have been employed as nurses and other helpers in our hospital for months after recovery and we have never had a single instance of such persons contracting any like disease in a severer form.

While Dr. Happel claims faith in vaccination against "smallpox," he states that the negroes in his county have not been and will not be vaccinated. Every physician conversant with the subject at all, knows that in the South 90 per cent. of all cases occur in the negro race, which to my mind is the best evidence that Dr. Happel's pseudo-smallpox is variola vera; as it is a well-known fact by everybody that the whites are much more generally vaccinated than the negroes. Dr. Happel mentions persons who had been seemingly successfully vaccinated, having the disease. I take it that every one knows that to have had a sore arm leaving a scar is not proof positive of thorough vaccination, rendering immunity.

Dr. Happel is health officer of his town and county, and as such will he say to this body that he does not require physicians to report mild cases of diphtheria and scarlet fever, and that he does not require the usual precautions as isolation and disinfection in mild cases, that I am sure he does of the severer forms of both diseases? If not, then why not take the same

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DR. JAMES J. WALSH, New York City—In discussing the question of modified smallpox, or pseudo-smallpox, it is well to remember certain advances that have been made in the recognition of exanthematous diseases in very recent years. During the last ten or fifteen years, the medical world has come to recognize the existence of a third disease in the measles and scarlet fever group of diseases. This new disease, German measles, is now admitted by practically all medical men to be absolutely independent of either measles or scarlet fever. Certain observations in England, especially during the last two or three years, seem to point to the fact that there is perhaps a fourth eruptive disease in this group, independent of measles and scarlet fever on one hand and also of German measles on the other.

It is perfectly possible then that a third disease, independent of varicella and variola, may be found in the smallpox group. Of course, board of health experts will not readily admit the existence of such a disease, if it does occur. They are paid to determine whether a disease is smallpox or chicken-pox, not to make observations on a possible third disease. Any hesitancy on their part might easily lead to serious dangers to the community. The mass of the medical profession, however, should not commit themselves to definite opinions on this subject. It would not be surprising to find many more exanthematous diseases. At the beginning of the century most of the eruptive diseases we now know were grouped together. For a long time measles and scarlet fever masqueraded as smallpox. We know that there are ten different kind of nutgalls in this country, all produced by the sting of different, but very closely similar insects and upon the same kinds of leaves. The possible characteristic reaction of the human skin are by no means exhausted, and we have recently learned from Professor Widal's work in Paris on cytodiagnosis in pleurisy that even the cells of the serous membranes react quite differently to different forms of microbic irritant.

It must be remembered that the Vienna school of dermatologists has never quite given up the idea that varicella and variola may be only modified forms of the same disease. Their influence is considered of so much importance in Europe that in the last important text-book of medicine, Professor Nothnagel's, the treatise on varicella begins with the discussion whether variola and varicella are due to the same cause and it takes up some six octavo pages. So acute a clinician as Senator has recently expressed the opinion that varicella and variola are due to the same cause and that varicella especially spreads at a time when smallpox has crept into a locality.

We have had some 30,000 cases of smallpox this year and the number is not diminishing. Opportunities are provided for the study of smallpox, such as we never had before. Careful observation of the disease as it exists at present should be made. Dr. Happel's work in calling attention to the differences which exist between the disease as he sees it in some parts of Tennessee, and classical smallpox is deserving of commendation, not condemnation. Further observation, not resolutions of medical societies, are needed to settle the vexed question of a possible third disease in the smallpox group.

DR. LOUIS LEROY, Nashville, Tenn.—I concur very much with what Dr. Leavitt said about people approaching the disease and having such a very uncanny idea about it. In regard to leprosy people have been taught to think of this disease as nasty, uncanny and horrible in the extreme. The same is true of smallpox and the popular notion has even extended to medical friends who have seen very little of it, and whose idea of this disease is vague and hazy, and who expect that the patient should stand fifty feet away in the open air lest they should be exposed to the contagion. The intensity of the infection certainly varies a great deal, but, I have seen patients with typhoid fever who could not be made to take to the bed; also, cases of pneumonia and scarlet fever in children who could not be made to stay in the room; and yet, other children exposed to them, contracted the disease and died.

Why should we insist upon a dozen names for smallpox; there is but one smallpox. Giving the disease so many names has a vicious effect upon the public. Dr. Happel mentions that the severity of the disease following was not dependent upon the severity of the onset; that is certainly true, and I wish to call attention to the fact that text-books on practice say the same thing. The observations made are certainly in favor of smallpox rather than against it. As to the statement that there was no pitting, I would also call attention to what is said by many writers; they claim that, in the discrete types of smallpox, pitting is absolutely the exception. I was exceedingly glad to hear Dr. Bailey, of Kentucky, say that when the disease crossed the border line and got into Kentucky it became smallpox. I would like to say that there is no transition at that border line. I have had an opportunity of seeing a number of cases on that line and I have tried to prevent a good number of cases crossing the line. Near that Tennessee-Kentucky line there are a large number of light cases of smallpox. I made a diagnosis of smallpox at Clarkesville, Tennessee, and I was ridiculed; but I had the State Board of Health behind me, and the case was quarantined. This year I traced this epidemic successfully to the Tennessee side; in the epidemic there was a mortality of 60 per cent. I have here a number of photographs taken of that case which was diagnosed as pseudo-smallpox at Clarkesville and from which the epidemic was traced that gave a mortality of 60 per cent. If this is called "pseudo-smallpox" it is a term applied to something which should be killed before it becomes too common.

Speaking of the individual who went to school with an eruption on the body, I have one question to ask: If it was in the knowledge of the health officers that this case was one of smallpox or any other disease possibly contagious, what was the physician doing when he allowed this person to mingle with the school-children?

DR. HAPPEL—The health officer knew nothing about it until the disease had been there.

DR. LEROY—How about the school teachers?

DR. HAPPEL—The school teachers were negroes.

DR. LEROY—As to the statistics of vaccination I beg leave to read the following, taken from one of my former articles: "In one series of records made by the writer this year, 1100 miners were examined, variola having been prevalent in that locality for a year previous. Of that number 800 had been vaccinated and had passed through the epidemic unscathed. Of the remainder, 100 had suffered from the disease and 200 had neither had the disease nor been vaccinated. Of 30 odd cases suffering at the time in their midst not one had been vaccinated. Only in four instances did any of those who had had the disease show evidences of previous vaccination, and in one of these the mark was over twenty years old; the other three gave evidence of having been only septic sores and not typical vaccine scars."

DR. WILLIAM THOMAS CORLETT, Cleveland, Ohio—I am impressed with the fact that there is a great waste of energy here this year. Yesterday we showed a large collection of slides, in the Section of Dermatology, which would well illustrate many of the phases of variola described this morning. I consider myself fortunate in being able to hear the papers read, and I heartily concur in the general soundness of the views expressed. I had hoped, however, that I could congratulate myself on not hearing such a paper as was read last year at Atlantic City, which I believe has done much injury. In Cleveland we have a very extensive epidemic of smallpox, which has increased to 1000 cases since last January, and which I believe was brought about by the fact that many did not recognize the disease as being smallpox. Physicians who had had experience with the disease in former times ridiculed the idea that the pest-house contained a true case of variola. So far as I have been able to observe the disease which has been recognized as smallpox during the past twenty years presents a distinct entity, just as syphilis does. In regard to Dr. Leroy's method of vaccinating by means of the hypodermic syringe, I consider it a good one, although I have never used it, but it will bear further consideration. Another point made was that variola was often followed by a successful vaccination. About a year ago Dr. P. asked me to investigate this subject, but as I have always regarded the occurrence of a successful vaccination following variola as evidence of a mixed infection, the subject did not seem to me to be of sufficient importance to call for further investigation. Dr. Bracken says that he has seen successful vaccination following variola, and I must agree with him.

What I shall now say I know will be unpopular because of the great difference of opinion which prevails. I began the study of diseases of the skin by entering a smallpox hospital in 1882 in London, and during my time there I saw nothing but skin diseases and I never saw a case of varicella occurring in a person over 15 years of age. I do not deny that it sometimes occurs in adults; John Hutchinson has seen one, possibly two cases, of varicella in adults. Dr. J. Louis Smith has seen one case of varicella in an adult which he has referred to in his work. Still another case was referred to by Dr. Austin Flint. Therefore, when a case presents itself to me with a supposed diagnosis of varicella, in an adult, I am inclined to do as is recommended by the author of the paper on smallpox in Zeimmsen's Cyclopedia, in cases of supposed varicella occurring in an adult—to always treat the case as one of smallpox.

DR. F. S. RAYMOND, Memphis, Tenn.—I want first to endorse Dr. Leroy's practique, as detailed in his paper, with reference to the management of smallpox hospitals. His paper is up to date, and such rules as he lays down should be carried out in the conduction of smallpox hospitals everywhere.

With reference to the papers of Drs. Spalding, Leavitt and Bracken, I must say they were all most excellent; the gentlemen have arrived at the same conclusions from the same line of reasoning which I have and which I believe to be correct. I endorse the three papers entirely, except Dr. Leavitt's statement that chicken-pox is a child's disease and never seen in the adult. I have seen a number of cases in adults, and even in people past middle age.

I beg pardon for consuming the time of so intelligent a body of men and women, discussing the only feature of this subject about which there is a discussion, namely, the diagnosis of this almost national epidemic of variola vera, and I hope such a discussion will not occur in this Association during the next fifty years, if I am so fortunate as to be in attendance at that time. I feel sure that 95 per cent. of all intelligent physicians, who have had opportunities to study this disease, believe and in fact know it to be genuine smallpox.

From personal observation, the disease and the special cases described by Dr. Happel in his paper are just such cases as we have been treating in our smallpox hospital near Memphis for five years, and I know that many of our cases have been employed as nurses and other helpers in our hospital for months after recovery and we have never had a single instance of such persons contracting any like disease in a severer form.

While Dr. Happel claims faith in vaccination against "smallpox," he states that the negroes in his county have not been and will not be vaccinated. Every physician conversant with the subject at all, knows that in the South 90 per cent. of all cases occur in the negro race, which to my mind is the best evidence that Dr. Happel's pseudo-smallpox is variola vera; as it is a well-known fact by everybody that the whites are much more generally vaccinated than the negroes. Dr. Happel mentions persons who had been seemingly successfully vaccinated, having the disease. I take it that every one knows that to have had a sore arm leaving a scar is not proof positive of thorough vaccination, rendering immunity.

Dr. Happel is health officer of his town and county, and as such will he say to this body that he does not require physicians to report mild cases of diphtheria and scarlet fever, and that he does not require the usual precautions as isolation and disinfection in mild cases, that I am sure he does of the severer forms of both diseases? If not, then why not take the same view with reference to handling mild diphtheria and scarlet fever that he does of so mild a form of smallpox?

Dr. J. F. Marchand, Canton, Ohio—The relations of the health officer and the physician to a community are of a twofold nature; first, the best interests of the community demand that this disease be called by its right name; second, the commercial interest of the entire community should not be neglected. If this disease that is prevailing is smallpox, call it smallpox, and, if it is smallpox, it ought to be quarantined. I am sorry that Dr. Happel read that paper; at Atlantic City, last year, he read a paper that was hurtful and harmful. Gentlemen, the time is at hand when everyone should unite in endeavoring to crush out smallpox, and there should be a united action on the part of every state and territory, and some plan of action should be formed. I have watched with great interest the spread of this disease all over the country, and it seems to me that there is no diminution of its prevalence in the rural districts, because there the physicians often hesitate in calling it smallpox. In the cities the only successful way of dealing with these cases is in municipal hospitals. I am glad to hear the papers read telling us how to protect the interests of the community. I visited the eastern section of Ohio last year to help out in some doubtful cases in diagnosis, and there was one thing that I emphasized, that is, treat all suspected cases as cases of undoubted smallpox.

I think, gentlemen, that the time will come when the science of medicine will demonstrate to the whole world that instead of 50,000,000 people in Europe alone dying in 100 years before the days of Jenner, the disease will almost be obliterated from the face of the earth. If the mortality is low in this form of the disease, which has been prevailing so long in the United States, it does not prove that this disease is not smallpox.

Dr. D. B. Pritchard, Winona, Minn.—During the past seven months I have had a large experience with this disease in an epidemic where we had 1758 cases of smallpox; of this number there were but 17 that had ever been vaccinated, only 3 of these being recent, the balance having been vaccinated from ten to sixty years ago. There were 646 houses quarantined, and in 152 houses there was but a single case of the disease. In these houses only the unvaccinated members of the families caught the disease.

Dr. J. A. Barr, McKee's Rocks, Pa.—I should like to raise the question as to what constitutes a "successful vaccination." This subject came up two or three years ago, during an outbreak of smallpox. The school board said that every child should present a certificate of successful vaccination. The secretary of the school board came to my office, when I refused to grant a certificate to one of the children, and asked me why I did this. I said: "Suppose that I give your children a certificate of successful vaccination, how are you going to view it?" He said: "I would believe that the children would be immune from smallpox." I replied: "Exactly." I also told him that statistics showed that, out of 6000 cases, 14 per cent. or more died after having been vaccinated; and out of the same number, that had been vaccinated twice, over 4 per cent. died; and of those that had been vaccinated, three times, only 1.75 per cent. died; and of those that had been vaccinated four or more times .75 per cent. died. Therefore, in order to render these children immune, I said that they should be vaccinated four times. People should be taught that immunity is not conferred by one vaccination; that, according to statistics, it takes at least four vaccination scars, well marked, to produce successful vaccinations. On this account, I refused to sign the school board's certificates.

A Voice—Why not vaccinate four times at once?

Dr. Barr—That is the German idea.

Dr. E. H. Martin, Clarksdale, Miss.—When the recent epidemic of smallpox made its first appearance it was in such a mild form that it was only by means of certain cardinal symptoms that it could be recognized as the smallpox of the textbooks. There naturally followed a very widespread sentiment of doubt, among the profession and the laity, with regard to the disease, as it then appeared, being the genuine article. However, since during the past year so many malignant cases have occurred, that doubt has been swept away. No one could treat a dozen, or even one, case of confluent smallpox and fail to recognize its identity. And when it is at the same time observed that those who had had the disease in its earlier, mild form are protected from the malignant form there is no longer room to doubt that the disease has all along been real variola. Nevertheless, it is equally certain that there are distinct varieties of smallpox, as well as various types of each variety. In observing several hundred cases during the past two years I have recognized at least four distinct varieties of smallpox. The individuality of each variety is established by the fact that persons contracting the disease would develop the same variety of smallpox as had the patient from whom the disease was contracted. This was true when as many as three varieties, brought from three separate outside foci, were prevalent in the same locality at the same time. In short, each variety breeds true to seed. It is needless to state that these observations were made where unvaccinated parties contracted the disease, and in cases where it could not have been modified by vaccination, otherwise the observations would be of no value. The fact that each variety is really variola vera is proven by the immunity which each variety gives to itself and all other varieties. Isolated instances of a lack of immunity after one of the mild forms proves nothing, as we have just as many instances in which severe types of the disease gave no immunity. They are merely the exceptions. As to the claim that vaccination does not protect against all of these varieties of smallpox, such claim is absurd when coming from a member of the profession as universally and as satisfactorily protected as the members of the medical profession have been by vaccination. One hundred thousand doctors have probably been exposed to smallpox in this country during the past two years, and those contracting the disease would probably not number a dozen.

What we can claim in behalf of the public and as an excuse for the cranks who are doing antivaccination talk, is that much of the virus now on the market has been so attenuated that it is practically useless. It may be well enough to use attenuated virus for routine vaccination of children in the absence of variola; protection may be gradually acquired by repeated vaccinations with such virus. But in the troublous times of an epidemic it is more important to give protection to the greatest number than to try to avoid a few bad arms, *especially as secondary infection can not be always avoided* even when the mild virus has been used.

It may be worthy of note to observe that the only "single-scar" cases of protection are every one from arm to arm vaccinations done fifteen or twenty years ago. We can not return to that method, but we, at least, should have a more highly vital virus on the market than is some of that most used.

Dr. G. W. Goins, Breckinridge, Mo.—As a scientific body I think we do Dr. Happel an injustice; as scientific men we ought to recognize the fact that as yet the exanthemata can not be scientifically diagnosticated and until further research has been made in those diseases there is still room for doubt. I think this Section, as a scientific body, in attacking Dr. Happel so vigorously does him a great injustice.

Dr. C. F. Dwight, Minneapolis—The question for discussion is: What can be done? We are practically all agreed that smallpox prevails throughout the country and that it can be prevented in 99 cases out of 100 by successful vaccination. Therefore, I think the question before us is: What is the best course to pursue to get all the people in the country vaccinated?

Dr. Happel, closing the discussion—I had no idea a physician living in a town of 2500 or 3000 inhabitants could stir up so much discussion as I have done; there must be something in it. I do not wish to be misunderstood or misrepresented, as I have been, upon the question of vaccination. There has never been said by me anything in opposition to vaccination; on the contrary, I have ever been an earnest advocate of compulsory vaccination. In the city in which I live, under an ordinance which I drew myself, no child is permitted to attend our public schools who can not make proof of recent vaccination. So much has been done along that line that 90 per cent. of our population has been vaccinated. Had the same zeal been displayed in the cities in which the "bosses of the State Boards of Health" live, not only in Tennessee, but in other states, smallpox would long ago have been a thing of the past. Our cities are the breeding places of the disease. Had as much gas been used around our legislatures, as has been wasted here this morning, helpful legislation could have been gotten long ago.

You call this disease "mild" smallpox; the Illinois State Board of Health calls it "modified" smallpox; then why should not a different adjective, "pseudo," be applicable?

I know nothing of the disease seen by Dr. Bailey, in Kentucky. He says it was smallpox, and I suppose that to be the case. He saw none of the cases reported by me, nor have any of the members of the Tennessee Board of Health. The papers claimed that the infection in those cases was carried by dogs, and the authorities had the dogs killed. but I suppose that the real scapegoat was the poor "nigger," but he was not killed.

In reply to the gentleman from Minnesota in regard to the "interrogation points" in my former paper, I have only this to say, that interrogation points give more evidence of study and thought than quotation marks, and many of the things that have been read here to-day should be properly inclosed in quotation marks. Nearly all of many of the papers can be gotten from any of our text-books on Practice.

One other point in regard to experts. We are being told almost daily that no one, except an expert, can give a positive opinion upon any subject. I asked a member of the Tennessee State Board of Health for a definition of an expert, as bearing upon this epidemic of so-called smallpox. He answered me that an expert was "a man sent to see and report." In view of the work done in Tennessee by the Board I readily accepted that definition of an expert. Now, if that is what is meant by an expert, God save us from experts. In some instances it can be proven that these experts, not only in the State of Tennessee, but in other states, have visited these cases, and looked at them through windows, and in other cases have examined them from afar with the aid of opera glasses.

I believe that any honest practitioner can recognize a vaccine mark when he sees one, but the teaching of to-day is that an expert is needed for even that purpose. If a vaccinated person contracts this disease (and the records and reports show numbers of such instances), we are at once told that the vaccination was not properly done. Dr. Runyon, cited in my paper, reports thirty-seven cases where persons who had been vaccinated contracted this disease. My position in regard to these cases is that they are not cases of genuine variola vera, and in this position and opinion I have been sustained by physicians in the city of Nashville, Tenn., eminent in their profession, filling the chairs of some of the medical colleges in that city, as well as by others, who, like my distinguished friend, have also passed the 400-mark in the number of cases seen by them. They saw the cases in person, as I did, and not as has been done by some who have occupied the floor here to-day, through the eyes and reports of others.

The consideration of the commercial aspect of the case has been brought into this discussion. In the State of Tennessee, thousands of dollars have been spent to no purpose. One county paid out as much as $32,000 in a vain attempt to crush out the disease, even being aided by the wisdom of the State Board of Health, and then failed. In my own county we spent less than one-sixteenth of that sum, and have kept the epidemic under perfect control, except when some other county furnishes us with a fresh supply.

As to the management of these cases without guards or pest-houses. When I am called to see one of these cases, I put out a yellow flag, and notify the inmates that they have a contagious disease, and must stay on their own premises till I give them permission to leave. The same notice is given to outsiders about going about the quarantined house, and all parties are emphatically informed that any violation of this notice will be punished by a heavy fine. These orders are never violated, and I have never had the disease spread from its starting point. I do not mean to be understood that you could manage in the same way in the large cities. I have so far found no need for guards or pest-houses. The most of our cases are among the negro population, but few occurring among the whites.

I do not care to reply to the gentleman who referred to my last case reported in my paper read, as apparently one of spontaneous origin. I regret that he should have, in the presence of ladies, illustrated his meaning as he did. A lady is or should be a lady, and is entitled to be treated as such, even though she be engaged in the practice of medicine.

Speaking of the resolution offered to declare this disease smallpox, I have only this to add: Your resolution amounts to nothing. It says to the public that those of you who vote for it are of the opinion that the cases reported, which you have never seen, are cases of variola vera. It carries with it no weight so far as the minority vote is concerned. Such action reminds me of my early day readings in Greek, where an account is given of an assemblage of the citizens of Athens held for the purpose of discussing the management of one of their many wars, by their at that time numerous generals, who were made or unmade by popular vote. After a lengthy discussion of the merits and demerits of the then general, a suggestion was made to elect another general in his stead. A motion to amend was offered that they vote all their asses horses. The one offering this amendment was laughed at, but proceeded to explain that if they could create a general by a vote of the assembly, then they certainly, in the same way, could change their asses into horses. The adoption of this resolution will come as near convincing the general public that this disease is variola vera, as would the adoption of the amendment offered in the Grecian meeting have had in changing their asses into horses. The chairman of this same section last year very properly ruled this same resolution out of order, and it is as much out of order now as then.

Mr. Chairman, there are many more things that I would have liked to have considered in my closing talk, but my engagement with the Board of Trustees prevents my remaining longer.

DR. SPALDING, closing the discussion —Dr. Happel favorably refers to the control of epidemics of smallpox by leaving the patients in their homes. In Tennessee this method resulted in permitting five cases to escape to Chicago. No case came to us from Kentucky. Regarding the question of vaccination as a protection against smallpox: In our hospitals over 200 students were admitted in order that they might study the cases. Every student admitted had to have three vaccinations. In not a single instance did a student contract the disease.

DR. LEAVITT, closing the discussion—In reference to the diagnosis as made by Dr. Happel, it struck me while he was reading his paper that some of the cases he saw and described were cases of varicella, particularly in the vesicular stage.

DR. BRACKEN, closing the discussion—Dr. Happel speaks of the terms used—mild smallpox, modified smallpox, etc.—and asks why not use the term pseudo-smallpox. The reason is that those who speak of a mild or modified smallpox speak of a variety of a given disease, and all who speak of it in this way recognize the fact that vaccination will protect against the mild or modified smallpox. Dr. Happel, on the other hand, makes a point that vaccination will not protect against the disease which he calls pseudo-smallpox.

Another party speaks of the different varieties of the disease. I think you may recognize as many varieties as you please so long as you keep within the limits of the varieties of the one disease.

Dr. Happel refers to the expense. If the sentiment of this meeting had been in support of Dr. Happel's paper, this would have been the most expensive paper read at this meeting of the American Medical Association. Such a paper would have cost Minnesota many thousands of dollars.

The period of infection of this disease is during the desquamative stage. I do not take the position that it is not infectious from the beginning, for I remember a case in a hospital with a diagnosis of typhoid fever. The patient was placed in a private room. The next morning the eruption of smallpox made its first appearance. There were only two or three persons who had been in this room prior to the time when the diagnosis of smallpox was made. The patient was removed as quickly as possible to the quarantine hospital. One nurse, who was not nursing the patient, but who was in the room but a few minutes, contracted smallpox. This shows the possibility of infection during the early stages. I have in mind another case of a young man, who, in probably the first day of the eruption of the disease, picked up a child and carried it a short distance. This child, his nephew, was in due time taken down with smallpox, the result of this exposure.

NOTE.—The following resolution was adopted by the joint Sections on Practice of Medicine and Hygiene and Sanitary Science, after the above discussion:

"*Resolved*, By the joint Sections on Practice of Medicine and Hygiene and Sanitary Science, That the disease now prevailing extensively in the United States and called in some instances 'pseudo-smallpox' is genuine smallpox, and should be so treated with vaccination and quarantine by all health authorities. Carried."

CANCER OF THE UTERINE NECK.

WITH COMMENTS ON THE PRESENT-DAY TEACHING.*

J. M. BALDY, M.D.
PHILADELPHIA.

Cancer of the neck of the womb is practically incurable. This statement is made advisedly and the proof of its correctness lies in the reports of results of treatment from all quarters of the world. At the present time there is no cure for cancer short of surgery, and it is no abuse of language to state that this disease is surgery's disgrace. Such statements I am well aware will be called radical by timid men or by men of little knowledge, they will be called bold by even men of knowledge and experience, but it will be a bold man indeed who can conscientiously call them untrue. I repeat that cancer of the neck of the womb as far as results go to-day is practically incurable. It is a reproach to our art, nay it is even a reproach to ourselves, but still unpalatable as the statement may be, it is the full truth. No amount of juggling with figures or facts will alter this state of affairs, nor will spurious nor exaggerated claims make matters better for those of us who want the truth and not garbled statistics. It will do little good to ostrich-like bury our heads in the sands of self-complacency, accept statements made from any and every source and sit with our hands folded whilst our patients die. What man of large experience can look over the past dozen years of his practice and put his fingers on any considerable number of patients who have suffered from this disease and are alive to-day? Who but can count the dead by scores, and this despite any and all methods of treatment known to us?

It is not possible to state with any degree of accuracy the exact proportion of such cases which it is possible to save, but judging from the past it is an absolute, although lamentable fact that it is less than 5 per cent. The best statistics on this subject with which I am familiar in this country which pretend to sufficient accuracy to be of any value have come from Johns Hopkins Hospital. Their cases cover all which have come to that institution since the institution began its work. On the face of these statistics 20 per cent. or more of such patients are cured—and this is a small claim as such claims go—at least such is the impression given the profession, although the facts are there and any one can deduct the real truth from them himself if he so chooses. As these statistics are a fair representation of all other reliable reports both from home and abroad, it may be well to examine them somewhat critically and draw our own and probably different deductions as to percentages. The facts are there and we are just as capable of judging the results and forming conclusions as are their compilers.

Seventy-three cases of cancer of the cervix were operated upon: 15 cases, or somewhat over 20 per cent. are alive to-day. But then, 68 cases were rejected as nonoperable—incurable—all of whom are of course dead to-day. Consequently, when we draw our own conclusions they are that a little over 10 per cent. instead of over 20 per cent. of cases of cancer of the uterus which have come to that institution are alive to-day.

Nor is this all. It will be recalled that Johns Hopkins Hospital has availabe a magnificent pathological department and that all gynecological cases passing through that institution have a thorough and systematic overhauling by men specially trained and skilled in this work. Patients are freely examined under ether, all curette specimens are examined microscopically and every safeguard as far as can be is thrown around the diagnosis. The consequence is that a diagnosis is not infrequently made in cases where the disease is so early as not to have been suspected and in a few where the diagnosis is even then (after the microscopic examination) doubtful the patient is given the benefit of the doubt. It is no news to the pathologists to state that there is often a wide difference of opinion amongst them as to what is and what is not cancer in the very early stages of the disease. Not infrequently we find men claiming certain minute changes as *surely malignant;* whilst others say *perhaps* (but not certain) and still other say *not at all.* What is the practical deduction in all this? Simply that the man who operates as the result of the microscopic examination and gives his patient the benefit of any doubt, occasionally operates on a case which is not cancer and which of course has no recurrence. This is exactly what they do (and properly so) at Johns Hopkins. Is it then out of the way to think that probably there may be a case or two (or even more) amongst the 15 patients of that institution who are still alive who would come in this category? If even a single such case exists in that group what then becomes of the 10 per cent. of cures?

Nor is this all; probably the most serious aspect of the danger of these statistics remain to be considered. Fifteen cases are reported alive. Analyse that statement for one moment and see what a false impression it gives. Of these 15, 9 have only passed from 10 months to two and one-half years since their operation. Only 6 cases alive from 3 to 6 years after their operation. Who can say that every one of the 9 cases under two and one-half years will not die of the disease in the next two and one-half years. Even the 6 who are alive after three years are by no means safe. These same statistics report a number of cases who have died four and one-half and five years after the operation.

What now becomes of the 10 per cent. cures? Am I too radical when I state that less than 5 per cent. of cases of cancer of the womb are cured? I would probably be nearer the real truth if I said 2 per cent. In view of these facts am I not justified in my opening remarks that "cancer of the neck of the womb is *practically incurable?*" The same analyses of the recent statistics from Germany gathered and reported by Winter shows almost exactly the same results, *although* reported for entirely the opposite effect.

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* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee of the Section: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

If those then be the facts what is the remedy, or is there any remedy? It matters little what the line of treatment, be it medical or surgical, although the surgical side of the question is the one which appeals to me, the remedy to my mind is plain: 1, a full realization of the facts as they stand, and 2, a sound understanding as to the importance of the early discovery of the disease.

The tendency of the teaching in the schools of to-day is in these respects bad; if I may be candid, abominable. I, in no way, mean to state that the facts of the present day teaching are unture, but I do mean to say that the tendency is to lay such undue stress on certain points as to practically obliterate from the ordinary medical mind the more important and vital points. The two particular points to which I refer are the statistics and the use of the microscope for diagnostic purposes. We well know that there are periods of fads in medicine as well as in other affairs of life, and that these fads often result in disaster in more ways than one. This question of the laboratory is rapidly becoming a dangerous fad, and unless there is a halt the coming generation of doctors will be incompetent to early distinguish this disease and will show even worse results in cancer of the cervix than our own.

Let me illustrate for a moment what I mean by the two abuses to which I have referred. It must be apparent to everybody, if we wish for better results, that the earlier the diagnosis is made and the earlier the case is brought to the surgeon the greater the chance of a cure. This appears to me to be axiomatic. It then behooves those of us who know the truth about the results of treatment to bring this matter home in no indecisive manner to the minds of the present and future practitioner of medicine into whose hands these cases first come. It behooves us no longer to deceive him directly or indirectly, consciously or unconsciously. If we are to continue to indirectly deceive him by our statistics in talking and writing of 20 to 60 per cent. of cures when we are fully conscious that when the whole group of cases be studied together, as they in all fairness should be, the percentage of real cures is from 2 to 5 per cent. only, what are we to expect from him?

First, a great laxness in the attempt to discover these cases early; second, a disinclination to hurry them at once to the surgeon, because forsooth his conscience is easy in the supposed knowledge that when he does decide to send them a large percentage can be saved at any rate. In other words, he is not impressed with the terrible nature of the disease and the almost certain fate which awaits his patient. Quite the reverse is the result of the teaching of the day; his mind rests easy, his patient rapidly approaches inevitable death and we who should enlighten him as to the real truth sink him deeper in his complacency by feeding him with our statistics of successful operations, ourselves as successful operators. They may not be direct falsehoods, but they are the more dangerous in that they have a semblance of truth and are indirectly most abominably deceptive.

If he knows that of all the cases of cancer of the cervix it falls to his lot to see in practice but from 2 to 5 per cent. at most are permanently cured, he will become the more cautions in his observations, will discover these cases the earlier and when a case is once suspected will be the more likely to seek consultation at once, both for the sake of his own reputation as well as for the safety of his patient. Once beginning to watch all his female clientele with this object in view, will he place his dependence on the laboratory and the microscope for his diagnosis? Far be it from me to decry these valuable aids to modern medicine or to belittle all that has been and is being done by the laboratory men, but far be it from you even indirectly to decry the clinician and all he has done and is doing in the way of acute observation and deduction from accurately observed facts. The clinical observation of facts comes before the laboratory examination: the laboratory examination is an impossibility without the prior clinical work and is after all at best corroborative; it rarely originates. Few cases of cancer of the cervix are diagnosed by the microscope where the diagnosis is not possible by the clinical study of the case. Had the case not been strongly suspected of cancer the aid of the microscope had never been sought. The few exceptions to this have occurred in routine examinations of specimens in well appointed institutions with all modern advantages in the way of appliances for teaching and study. It may be claimed that this is the goal for which we should all strive; that such examination and study should be made universal. The millennium has not yet come nor is it yet in sight, consequently we are forced to content ourselves with being practical (rather than theorists) and accepting situations as they exist obtain the best practical results from them possible. For instance, we are faced by these indisputable facts:

The great bulk of the profession live away from the teaching centers and laboratories and have few or no facilities for such routine work. They have not time for it. They have not the special knowledge necessary to make it of much use. They have not the apparatus. There are few communities in which there is even a single man with the requirements necessary for this work, to whom it might be referred. What is the use then of laying so much stress on the microscope to the belittling or exclusion of methods which are within the reach of all practitioners where ever they be, and upon which they must of necessity rely? I mean by this the clinical study of cancer patients, be the disease early or late. The most recent book on cancer of the uterus (Cullen), a work which is based on the accumulated experience of one of the great teaching institutions of medicine in this country (Johns Hopkins), a useful work for the specialist who can read between the lines and who can not be contaminated by its false teaching, a work which should be excluded from the hands of every practitioner of medicine (other than specialists) in the land, has this to say on the subject of diagnostic symptoms (our only apparent hope of advancement in the treatment of this disease): "After thoroughly analyzing our own cases, and studying the records of others, we find that diagnostic symptoms at best are meagre, and in the early stages give little or no clue to the real nature of the disease." The teaching throughout the whole book is consistent with this statement and it is sad to relate that this fairly represents the tendency of the teaching on this subject to-day, not only in this great medical institution, but in many others. No greater mistake was ever made; no falser teaching was ever promulgated than this. The statement is absolutely without foundation in fact, and if any of us arrive at a similar conclusion it is because we have allowed the laboratory craze to blind our best judgment and obscure our acuteness of observation, to say nothing of blunting our reasoning faculties. Quite the reverse is true. The symptoms of early cancer are as plain as those of any other disease in its early stages and the reason it is not oftener detected early is the fault of the observer, not of the symptoms had they been properly observed and interpreted. And it is just such teaching as is contained in this book (all microscopic, nothing clinical) which will make careless men more careless and untaught men ignorant. I repeat that the symptoms of cancer, although meager in the very early stages, are sufficient, and it has been the rare case indeed in which the microscope has made the diagnosis that a retrospect of the case has not caused great surprise at the number of symptoms present and their significance. I protest against such teaching and look in the future for a return from the will-o-the-wisps of the laboratory to the sound ground of educated and accurate clinical observation. It is not my intention to drift into an exhaustive study of the symptomatology of early cancer of the uterus, but there are a few points to which I will refer briefly.

There are three great symptoms of cancer, pain, odorous discharges, hemorrhages; these taken in conjunction with progressive loss of flesh and strength present a picture which becomes so significant that no one is justified in failing to see their significance. This picture complete is however the picture of well-advanced cancer and is never present in the disease in its early stages. Hemorrhage with possibly beginning loss of flesh and strength is the diagnostic sheet-anchor in the early stages. No one knows how early bleeding begins, but begin it does very early; early enough to give plenty of warning of what is coming. In this connection there are one or two circumstances which should be considered almost pathognomonic, so few are the exceptions. They at least should make the suspicion so strong as to demand a most careful and immediate overhauling of the patient.

A woman once having passed the menopause, the menstruation having entirely ceased and a year or two, or six or more years later but a single show of blood from the genitalia be noticed no matter from what supposed cause (traumatism excluded), cancer will be found with but rare exceptions. Personally I have never found an exception.

Even during the menstrual life of a woman, if a blood stain be noticed after coition; if after the use of a syringe a stain appears or the water is bloody; if following excitement or exercise, or from any similar cause; if a slight stain be observed in the mornings on arising or following constipation (reasonable cases being excluded), cancer should always be suspicioned and a mistake will rarely be made. It is true some non-cancerous ulceration and mucous polypus will cause this symptom, but rarely.

These symptoms are so readily observable and are so significant that it is a mystery how often they are ignored and the patient allowed to drift into an incurable state. They are so plain that he who runs can read. Not so with others which, although taking a little more acuteness of observation, are none the less significant.

All women from puberty to the menopause bleed, *fortunately with more or less regularity.* The bleeding itself is not so significant as the comparison with what it has always been before in the same woman. Naturally, then the man who can make the most valuable comparison is the one who is familiar with all the details of the woman's menstrual life—the family doctor. It is quite easy for such a man to know almost any irregularity in a woman's bleedings, to know of any reasonable cause for such irregularity, to compare such irregularity with the past and to consider it in conjunction with the present state of general health, progressive or persistent otherwise unexplained loss of strength or flesh. Being always on the look-out and suspicious for *his patients*, being always determined in every case to exclude cancer where the symptoms (irregular bleeding) are not readily explainable by other lesions, as a careful man always considers and excludes pregnancy in any abdominal growth, how could the case escape a suspicion where the bleeding from the woman's genitalia becomes profuse or comes at unusual times. It is not so much the quantity of blood lost which is important as the fact that blood even in minute quantities is observed at times not expected and which is incompatible with the physiologic flow or a prolongation of this function (due so often to a neoplasm or an inflammatory lesion.) Any or all these points are significant and call vigorously for a careful examination. They may be readily explained at the examination by a polyp or an erosion or a benign ulceration, but most frequently cancer will be found; early often, even so early that the laboratory man will decline to make a positive diagnosis from any small specimen you may present to him; so early at times that he will be uncertain while you will be so *certain* that you will operate on the case in spite of his hesitancy. Many a time have I done this, many a time I hope and expect to do it again. In few cases have I ever found that after a careful and prolonged study of the removed organ he (the pathologist) has not finally fully agreed with my diagnosis—so far superior is clinical observation and deduction to the microscope in this disease. So far convinced am I of the truth of this position that in cancer of the uterus I never expect to allow the microscope to stay my hand—no matter what its decision may be. If it agrees with my clinical deduction well and good; if it is uncertain and hesitates, it is not going to prevent me trying to save the life of the patient.

I repeat that all our statistics on cancer of the cervix uteri (or rather the interpretation of them) are false and grossly misleading. The microscope as a means of diagnosis is vastly inferior to clinical symptoms and observations.

The teaching of the day in most of our great schools of learning in the respect is as bad as it well can be; consequently the outlook for competent observers and diagnosticians for the future is bad.

DISCUSSION.

Dr. J. H. Carstens, Detroit, Mich.—There is no one who has been more inclined to become pessimistic in reference to the discussion of cancer than I, but I feel grateful that I have not become such a pessimist as my friend Baldy. I am not at all astonished that he can not show a greater number of permanent recoveries if he absolutely discards laboratory investigation. If he waits until as the result of the smell and the discharge he can make a clinical diagnosis, if he waits that long, there is no wonder that the number of recoveries will be very small indeed. Our object has always been to get these cases early, and if you wait until you can smell the bacillus or until you can hear them sing. your patients will certainly die inside of a year. When you have a woman who flows more than she ought for two, three or four months, curette that uterus and carefully examine the curettings with your microscope. You will find that it is probably a benign adenoma. The hemorrhage will probably recur in spite of your curettage. You curette again two or three months afterward and find that your case is a malignant adenoma; then is the time to operate. If you wait another three months and again examine the scrapings with your microscope, you will find that it is an adenocarcinoma. Then it is too late to try to save the woman's life. Early investigation and early *operation* is the proper thing to do. I will give Dr. Baldy every opportunity to look at a little plug removed from a lacerated cervix and tell me whether it is malignant or not, but I know that some of these cases are malignant before I have them examined microscopically, and if I get the report that they are malignant, then I take out that uterus within four weeks. In that way I save the woman's life. If I wait until I can smell it, then an operation will do no good. The trouble is, we get them too late. I can show you cases operated on ten years ago, where the microscope showed beyond question that it was a cancer, in which there has been no return of the disease. Other cases that seem to be just as mild or milder would have a recurrence *in situ* or some other part of the body within a year. We can not tell by the appearance of a case whether there will be a return. Sometimes the most favorable cases will recur and the most unfavorable cases will have no recurrence. What I plead for is early diagnosis; then we will have fewer recurrences.

DR. J. G. CLARK, Philadelphia—Three great objections can be raised to Dr. Baldy's paper. The first objection, a very strong one, is that the paper comes from a man who has not gone into the pathologic side of the question, a man who criticises from the standpoint of one far removed from the scientific aspect of this subject. The second objection, also a very potent one, is that the statistics of others are taken as his basis for criticism. Why does he not bring forward his own statistics? Third, a special point he made, he does not recall a single instance in which he ever took out a uterus which he diagnosed clinically as a carcinoma, and which was proven to be otherwise after that. If he absolutely excludes the microscope as a factor in diagnosis, I would like to know how he can tell whether or not he made a mistake.

Dr. Baldy has attacked the work of Dr. Cullen, and as he is not present I feel that I must say a word in his defense. One of the first things Dr. Cullen brought out in his book is the clinical side of these cases. He dwells especially on the three cardinal symptoms of carcinoma; then he says in a general way that failing in this we should curette and examine the scrapings microscopically, because the microscope is unquestionably superior to our ordinary crude diagnostic methods. In this way we can positively determine whether or not it is a carcinoma. If there is any one point which I lay stress upon in my lectures and in my clinical demonstrations to students, if there is one thing I try to impress on these men, it is the early diagnosis in these cases of carcinoma, a fact which Dr. Baldy himself has alluded to. Wherever there is a typical discharge, wherever there is anything out of the ordinary in a woman of a carcinoma age, that is a case for careful clinical study. Then, when in doubt, or where there is none, resort to the microscope, and if it confirms our diagnosis we can be absolutely certain of our convictions.

The surgical aspect of the subject is a weak one. We have done our best in a general way for carcinoma. I am certain that on the microscope must hinge the final diagnosis of these cases, especially where there is doubt. The negative factor is often greater than the positive factor. Within the last three months I have had two cases, in one of which, at least, from the clinical standpoint, no man could say it was not a carcinoma. The woman was 39 years old, had had periodical hemorrhages for several months, and had had a carcinoma of the breast. The first curettage showed areas that were suspicious, but I felt safe and waited three or four weeks for a recurrence of the hemorrhage to again curette so as to be absolutely certain before making a major operation. A second curettage absolutely showed the benign nature of the case, a simple inflammatory condition of the endometrium. Since the last curettage, five months ago, there has been no hemorrhage. The positive factor is the confirmation of the diagnosis through the microscope. The negative factor is the ruling out in just such cases as this. Many a woman will have her uterus removed if we are guided solely by clinical symptoms. I have never seen a single instance where Dr. Cullen was mistaken when he said that a certain case was carcinoma. I have seen cases where he was in doubt, but in those cases the carcinoma was so little that it was better to wait two or three weeks and then be able to say positively that this is carcinoma. If it is a benign tumor you can let the woman go with a simpler operation.

DR. E. G. ZINKE, Cincinnati, Ohio—Dr. Baldy's paper deserves praise for the manner of its presentation rather than its contents. There is plenty of room for just criticism. I want to limit myself to the consideration of two points: The question of early diagnosis, and the curability of cancer of the cervix. If Dr. Baldy's description of the early symptoms of cancer is correct, then I have never known what the early symptoms of cancer of the cervix are. The symptoms given by him mark an almost hopeless condition. The early diagnosis, in the majority of cases of cancer of the cervix, is exceedingly difficult; and it is for this reason that these cases come to us, usually, when too late. I saw a striking example, in 1891, in Chrobak's clinic in Vienna. A well-nourished, rosy-cheeked woman, aged 29, was brought into the clinic one day, and, after the professor had made an examination, he asked that the patient be taken out of the room. He then turned to his audience and said: "Gentlemen, I am sorry to say that this poor woman is hopelessly lost to the ravages of a carcinoma coli." The symptoms present in this case would not have warranted the suspicion even of the existence of this disease.

Several years ago I saw three women in one year (aged respectively, 23, 26, and 27), every one of them seemingly a picture of health, yet all hopelessly lost to cancer of the cervix. They were being treated for irregular menstruation, menorrhagia, metrorrhagia, etc., by their physicians. They did not suspect malignancy. These cases were reported, at the time, to the Cincinnati Obstetric Society, and published in the *Journal of Obstetrics and Diseases of Women.*

As to the possibility of curing these cases: I am convinced that they can not be cured unless the disease is removed by the knife in the earliest stage. Occasionally a patient, advanced in years, recovers even though the disease was extensively present. Carcinoma coli seems less violent and rapid in its progress when it occurs in advanced than in early life. An early diagnosis of cancer of the cervix is only possible when examinations are made promptly and thoroughly in every instance when complaints or irregularities point to the internal genitalia for their site or origin.

I believe in the curability of cancer of the uterus. The disease must, however, be attacked early and completely removed. I have seen good results follow the removal of the uterus in seemingly hopeless cases. Too many cases are abandoned as incurable. Every case should be treated until the last.

DR. EMIL RIES, Chicago—The statistics which Dr. Baldy attacked, teach a very eloquent lesson, and the way Dr. Baldy has disfigured them and juggled with them in order to fit them into his logic is astonishing. He starts out to prove that carcinoma of the cervix is incurable, and then figures on cases that come to the hospital when they are already incurable. He mixes up the incurability of cancer if left alone, with the incurability if operated. Of course, those cases not operated are incurable; they are lost; everybody admits that; no one ever said they were curable. If he uses those statistics he can only take those cases that were operated. That 15 or 20 per cent. of the cases are operated and survive for a time, merely proves just what that means and no more. But to take into consideration the cases not operated, and to attempt to prove with them that cancer is incurable, is an injustice. The injustice is the more severe because it strikes a man and a work which are worthy of the highest praise. Cullen's work on cancer of the uterus is excellent because it teaches the importance of laboratory work in spite of Dr. Baldy. Every modern man must subscribe to what Dr. Cullen says concerning laboratory methods and the necessity of the microscope in the early diagnosis of carcinoma. The man who does not agree with him is antiquated.

The doctor fails to take into account that there is a new operation which proves the cure of carcinoma to be possible, has proven it to a certain extent already, and is going to prove it still more in the future. It also explains why such a large number of cases which are operated on under the old methods have recurred. I speak of the method which I had the honor of proposing six years ago, and which has been followed in Europe as well as in this country and Canada. This method consists of the complete removal of the regional lymphatic glands, together with the broad ligaments, round ligaments, utero-sacral ligaments, tubes, ovaries and uterus. When I proposed this operation I suspected that the glands would be involved early in carcinoma. Most gynecologists teach that in carcinoma of the uterus the glands are not infected early. They know nothing about it, because they have not examined the glands. Very few men have; Cullen is one of them; Wertheim, of Vienna, is another, and I have examined a few. A number of men have examined these glands but have found no carcinoma. Suffice it to say that those who have not found carcinoma have not examined all the glands or they would certainly have found the carcinoma.

As to results, Wertheim has operated on fifty cases, but he went far beyond my indications. His mortality from the operation has been high, therefore he comes back to what I have always said, limit the operation to the early cases, as it gives you a much better chance of curing the patient completely. What is the result of all cases operated on in the last two years? Not one has recurred. We all know that recurrence takes place in the majority of cases within six months. I have operated on a number of cases, the oldest over four years ago, and it has not recurred. I saw the patient a month ago and she is well. The results of the Johns Hopkins operators in this work are not valuable. I do not know whether their cases have recurred nor is anything known about the glands in those cases. In Wertheim's cases and in mine, the glands were carefully examined.

The objections to this operation are first, high mortality. The mortality is about 20 per cent. in the hands of skilled operators. What is the mortality without the operation? Dr. Baldy says 95 per cent. If you want to give your patient a chance, operate on her. It has been said that you can not remove all the glands and connective tissue. That is a mistake. It can be done if you keep at it. Practice the operation on the cadaver before you do it on the living. Learn the anatomy perfectly and then operate. You can clean out the pelvis as completely as you can the axilla. It has also been said that these glands may not be carcinomatous. My reply is that the case which has been examined thoroughly and which did not contain carcinoma, is still to be shown, but the cases in which the uterus was freely movable and the carcinoma small, where the case appeared to be a favorable one for vaginal removal, and where the glands were not enlarged but did contain carcinoma, are cases that have been shown by Wertheim and myself.

The last objection is that the carcinoma might be beyond the glands so that even if we removed the glands we did not remove the entire carcinoma. That is true. If the carcinoma is in the liver we can not remove it, but by removing the glands you give your patient a better chance for a complete and radical cure.

Dr. E. E. Montgomery, Philadelphia—We should welcome anything that throws light on this subject, whether through increased clinical knowledge or increased observation with the microscope; as yet we know little about the progress of carcinoma. There are cases in which the disease has extensively involved the cervix and where it is questionable as to the wisdom of an operation. I have seen cases where I have hesitated, but removed the uterus nevertheless. One of the patients is living after six years, and another two years, without any recurrence in either case. I have seen other cases in which there was apparently but little involvement and in which I looked forward to a most favorable result. Within six months after the operation the patient would have a recurrence of the disease and die.

The importance of an early diagnosis has been impressed on us, and I fully endorse this; yet there is no means of determining the early presence of carcinoma. The recurrence of hemorrhage, the presence of a foul discharge, the existence of pain, not infrequently occurs after the disease has made great progress and has extended so far that even a radical operation offers but little hope. I recall a case in which there was nothing to indicate the existence of a malignant disease, and yet the cancer had passed through the cervix. The external os looked healthy, but the cervical wall was infiltrated. I operated, but the disease recurred in the vaginal wall in different places, affording an opportunity for seven operations during the last three and a half years, the seventh resulting fatally. I repeat, therefore, that any means which affords us increased knowledge with regard to the development of cancer of the uterus, whether it comes through the microscope or through clinical observation, is welcome.

Dr. G. B. Massey, Philadelphia—In selecting an operation for cancer of the cervix we should bear in mind the progress that has been made in the determination of the causes of cancer. This is now practically established to be a protozoon, a low form of animal life. That fact should direct your attention to the method of operating which I have referred to before, by which the dissemination of the oxychlorids of mercury in the midst of the growths causes immediate necrosis. It is a major operation and is done under anesthesia. Of course, certain risks are run because of the separation of the eschar, but there is no immediate risk because of the absence of hemorrhage. I have one case of cancer of the cervix to operate upon in which there has been no recurrence after about five years. In another case I obtained palliative results lasting six months. It has also been used as a palliative measure in two cases that were evidently inoperable. It relieved the pain and stopped the hemorrhage and odor, but did not save the life of the patient.

Dr. J. Wesley Bovée, Washington, D. C.—I think that Dr. Baldy is correct in saying that this disease is incurable. We must all admit that the ultimate mortality rate is very high. I would not, however, take quite so gloomy a view of it as he does, nor am I willing to forget the microscope as a diagnostic measure. I always required that these cases should be early ones, and a case does not need to be much advanced for me to throw it out. If we were all to follow that line we would have better results. I have done fifteen radical operations along the line mentioned by Dr. Ries. I did fourteen without a death, and the fifteenth and last case died on the table, so that the primary mortality rate is not any higher than that of ordinary abdominal work. I do not know whether we can go deep down in the pelvis and remove all the glands. I begin above, ligating the ovarian vessels, slitting down along the ureters, separating it down to bladder, ligating the uterine arteries near origin and cleaning out the pelvis as well as I can. I remove all the appendages, the ligaments, the uterus and the vagina down to the vulva; dissect out the glands, etc., and pull them out from below, following the plan of Werder. I do not know whether I remove all the glands, but I am sure that the method gives better results than any other. Thus far I have had two recurrences, but it takes time to determine whether we will have as many recurrences from this method as from the others. Certainly they are fewer compared with other procedures for the same amount of time.

Dr. Gustav Kolischer, Chicago—Dr. Baldy"s manner of handling statistics is perfectly correct. Last year, Winter used the same statistics for another purpose, and this year he made a similar report which shows that the figures mentioned by Baldy are absolutely correct. In cases where a carcinoma of the cervix must be dealt with, the best operators do not have a better percentage of definite cures than 5 per cent. Most of our statistics are absolutely useless because they do not distinguish between a carcinoma of the cervix, the intermediate portion and the vaginal portion. We know that all cancers of the portio are relatively harmless; in fact, statistics show that they achieve about 20 per cent. of cures. All these cases of cancer of the cervix are cases in which we can get better results than 5 per cent.

I think Dr. Baldy was carried a little too far in denouncing the microscope. Even masters of microscopy admit that there are a great many cases in which they are absolutely unable to decide whether or not there is a carcinoma. If we have a case where the woman has hemorrhages and is losing flesh, and if the microscopist who examines the scrapings which we have obtained by curettage, tells us that he is not sure whether or not there is a carcinoma, are we going to wait three or four months until he is able to decide positively? By no means, we should at once do a hysterectomy. Whether our results will be improved by abdominal operation or vaginal operation, can not be decided on at the present time. Wertheim and others report that in a great many cases the glands are infected. Men like Fraenkel, and others, say that in cases of carcinoma of the portio the glands are rarely ever involved. The only statistics which are valuable, those of Wertheim, are too small to decide on this question. He has only 49 cases, and in 15 the perimetrium was not examined at all. Ten years ago I gathered 250 operations for carcinoma of the breast, and it showed that cleaning out the axilla had nothing at all to do with the results. The results improved after we began the removal of the pectoralis. Baldy's outlook is certainly a very gloomy one. If we make a distinction between carcinoma of the portio and carcinoma of the cervix our results are certainly better. If the gentleman stated that he cured hopeless cases, I am unable to see how he did it. Hopeless cases are inoperable cases and can not be quoted. There is another point in which I think Dr. Baldy was misquoted; he said carcinoma of the cervix was incurable and that we have to remove the whole organ.

DR. FREDERICK HOLME WIGGIN, New York City—We are all under obligations to Dr. Baldy for calling the attention of general practitioners once more to the primal importance of thoroughly investigating and determining the cause of the trouble in every case which comes under their observation of a woman who complains of suffering from menstrual irregularities tending to an increased loss of blood, regardless of her age; even if she does not also complain of having pain in the region of the uterus or of a foul smelling discharge. It should be constantly borne in mind that these last symptoms instead of being indicative of the early stages of malignant uterine disease are those of the late or inoperable stages of the disease. If we are to have a lessened mortality from this fearful disease and better results than are at present obtained from radical operations performed for the relief of patients suffering from malignant uterine disease, the condition must be recognized early and the surgeon called in and allowed to operate without delay. During the last few years I have had a large number of patients referred to me suffering from this disease where it had progressed to a hopeless condition from an operative point of view, while they were under the care and observation of their family physician; he had really paid little or no attention to their complaints, had made no local examination till long after the patient had repeatedly called his attention to her troubles; the physician satisfied himself with writing a prescription for some simple medicine or ointment for piles, especially when the patient called attention to the fact that her nightgown was often slightly stained with blood in the mornings, or was told in the same offhand way that her trouble was due to change of life, and that if she would only be patient all would come right of its own accord. When these patients finally succeeded in getting their physician to examine them, on which they said that they did not wish to insist too strongly for fear of being considered immodest, he found much to his consternation evidence of advanced malignant disease too late for radical operative procedures to be undertaken with much hope of permanent benefit, whereas if the patient had only been examined carefully when she first complained, the condition might readily have been recognized and permanent relief afforded.

This is certainly a sad state of things, and should not be allowed to continue. Physicians should not satisfy themselves and their patients by prescribing simply a remedy to hide the symptoms complained of, but should study them, and by careful investigation seek for their cause; they should cure their patients by having the cause removed when possible, and make a proper charge for their then really valuable services. In my experience many of the careless acts of physicians in regard to their patients is due not to lack of knowledge, but to the ridiculously small fees which they are in the habit of receiving for their services; consequently they feel that they can not afford to give much time for the consideration of the case of any one patient.

In regard to the removal of tissues in cases of suspected malignant disease for the purpose of confirming the diagnosis, I have in the past, several times seen bad results follow it, especially where there had been some delay in getting a report from the microscopist, for even during that short interval of time, owing to the slight operative interference, the case had passed from an operative to an inoperative stage. Therefore, I believe it wisest as a rule, where the history and clinical evidences of the disease are fairly clear, to operate first and then to have the microscopical examination of the diseased organ made afterwards.

DR. J. M. DUFF, Pittsburg—Our discussions are certainly for the benefit of the general practitioner as well as for that of the specialist. The idea that pain and hemorrhage are always symptoms of carcinoma of the uterus is certainly false and misleading. Some of the worst cases I have ever seen did not have any hemorrhage until very late, and others equally as bad did not have any pain. I know of one case where the woman did her housework until the evening before she had a severe hemorrhage, ending in death. If we lengthen a woman's life by operating, we benefit her. But if we do not get the cases early, we can not expect to obtain as good results, even in the lengthening of life. It is our bounden duty to always seek for the cause of trouble when a patient comes to us. Let us not be satisfied, until we find out what is the cause of any symptom. This will very frequently lead us to an examination of the genitals and there you will find the seat of disease. Very frequently that disease is cancer. In such way we can get hold of it early. Ordinarily, as the cases come to us from the general practitioner, the microscope is really not needed so far as diagnosis is concerned, because the clinical findings are sufficiently prominent to give us positive assurance as to the existence of cancer.

DR. BALDY, closing the discussion—It is impossible to answer all the criticisms of my paper. Dr. Kolischer has answered so many of them so well as to have almost taken the words out of my mouth. Dr. Clark objected to my paper for three reasons: 1, because I did not judge from a pathologic standpoint; 2, because I did not bring forward my own statistics and base my paper on them; 3, that Cullen's book dwelt fully on the clinical aspect of cancer. If Cullen dwelt on the clinical aspect of cancer in his book, he himself does not know it, because he apologizes for not having done so in unmistakable words and anyone reading the book will fully appreciate this fact.

As to my own statistics, my paper is based on them, and Dr. Clark himself has heard me state in public discussion a number of times that I do not know but the rare case of cancer of the cervix that I have ever seen that was alive to-day. These two objections are therefore incomprehensible to me. I fail also to understand the objection as to my not judging from a pathologic standpoint, as I began to study that aspect of the question long before Dr. Clarke graduated in medicine.

As to the microscope work being valuable in its place, I have not one word of criticism to offer. No man who will read my paper in his leisure hours, will find any criticism of laboratory work or the microscope. Most of the speakers have misunderstood the entire drift of my paper. Dr. Bovée misinterprets the meaning of my use of the word "fad" in connection with the microscope. One can use words in order to bring out a certain meaning more strongly without condemning a method. One's opinion must not be judged by a single word, but by the whole of what he says. It is a dangerous thing to quibble in literature, as we are frequently caught by it. Of course, the microscope is the final test, but who will use the microscope if they have not first made the clinical test. What do these gentlemen mean?

To curette every woman who consults them and to examine the scrapings? They will hardly dare to go beyond doing this to suspected cases. I believe that a man's clinical judgment is better than a doubtful microscopical report in nine cases out of ten. Dr. Clark informs us that Cullen can always diagnose cancer with the microscope, and he cites a case in which the microscope showed a cancer, etc. The best pathologists differ from this opinion and my experience with all I have any knowledge of is that they differ greatly and are often mistaken. I had a patient come to me recently, I curetted and sent the scrapings to a prominent pathologist. He called it cancer. I sent it to another, who said he could not see anything suspicious of cancer, and advised me to wait three months. I concluded not to wait, so I performed a hysterectomy. I took the specimens to the pathologist who then admitted that it was cancer. The pathologist is no better than we are. He makes the same mistakes and has the same weaknesses.

I deny that I have juggled statistics; it is perfectly fair to consider cases described by other surgeons, as I have in my paper. The juggling is by the other man, and men usually object to having such manipulation exposed. I have my compliments as yet to pay to the gentleman who talks of removing the pelvic glands in operation for this disease. Dr. Ries admits 20 per cent. mortality in his operation, an enormous mortality, and that in the hands of an expert. What would it be in the hands of an inexpert? Consider a moment, where does a cancer of the cervix recur? It invariably recurs at the site of the wound where the cancer was removed. It does not recur in the glands that are inches away from the uterus. That is the rare method of recurrence. You might just as well remove the glands in the neck and axilla. That is common sense and practice versus theory. The proposition to remove the glands is an absolute impossibility. The surgeon does not live to-day who can remove all the glands in the pelvis of any living woman. I have thrown out that challenge before and I throw it out again and it will be only a short time when every one of these gentlemen will admit that what I say is true. It is all theory, but it is all wrong practically.

I fail to understand my friend Carstens. He has built up his own theory, and then knocked it down; but it has nothing to do with my paper, as I have said practically what he says. He misunderstands the drift of my paper entirely. If he did not grasp the fact that I was pleading with the general practitioner to learn clinical diagnosis, and with the teachers to teach the general practitioner to be able to diagnose these cases early, then my paper, as far as he is concerned, has been an utter flat failure; and I suspect from your discussion, most of you who have discussed the papers, are as much at sea as Carstens. That was the only object I had in presenting the paper. Teachers should teach good clinical medicine and not too much microscope, so that the general practitioner would be able to suspect these cases, and then give the microscopist a chance. It is the only hope we have for the future as far as this disease is concerned.

ACUTE MASTOIDITIS AFTER SUBSIDENCE AND WITHOUT RECURRENCE OF TYMPANIC INFLAMMATION.*

HIRAM WOODS, JR., M.D.
BALTIMORE, MD.

The symtomatology of acute mastoiditis is so generally known that it is almost useless to write of it. Two modes of onset are most common. While otorrhea continues, or increases in amount, mastoid symptoms develop. This, in my experience, is the rule. Less frequently otorrhea ceases, perhaps gradually, more commonly, suddenly, with simultaneous lighting up of mastoid disease. Politzer, in his text-book, says that only once has he seen suppuration in the tympanic cavity cease, while the symptoms of inflammation in the mastoid continued undiminished. And again he states: "Occasionally cases are observed in which, several days after local symptoms disappear, abscess formation in the mastoid process is manifested." In the clinic of the Presbyterian Eye, Ear and Throat Hospital of Baltimore, so far as I find recorded, there have been only two such cases in twenty-two years: one, a child three years ago, where there was no otorrhea; the other a woman, during the past winter, in whom mastoiditis required operation three weeks after recovery of all ear symptoms and restoration of good hearing. Both were treated by my associate, Dr. J. F. Crouch. The following three cases have come under my own care within the past two years:

Case 1.—Anne W., 8 years of age, was referred to me Dec. 14, 1899, by Dr. I. E. Atkinson of Baltimore. For six days the child had been somewhat deaf, with occasional pain in the right ear. For three days there had been a discharge. There was an indefinite history of aural trouble two years previous. Prior to the present attack the child had had coryza. She heard the watch at three inches in the left; contact, right ear, conversational voice about two feet. Stiff neck, the head inclined to the right, was marked. There was a small perforation in the lower anterior quadrant of the membrane, while the antero-superior angle was congested. There was no pain. Politzerization was used in the office, and the ear irrigated with warm boric acid solution every third hour for two days. On the third day there was no otorrhea, and neither spontaneous nor pressure mastoid pain. Temperature during the entire course did not go above 100. On December 26, nine days after otorrhea had ceased, the little girl came to my office complaining of pain in the right mastoid region. There was tenderness on pressure. Torticollis was still present. There was no redness or swelling of the mastoid. The ear was dry, the drumhead showing no evidence of renewed tympanic disease. My voice in loud whisper was heard at 20 feet. Rest, cold locally, and calomel were employed. On the 27th there was no pain. But for the stiff neck and general lassitude the child seemed well for the next three days. During the night of the 30th, she awoke with pain referred to the mastoid. On the 31st, the canal, membrane and tympanum showed no evidence of trouble. The mastoid was tender, red, and hearing the same as four days previously. The next day, Jan. 1, 1900, I operated under chloroform. Necrosis was found on the cortex, near the tip, leading into a shallow but vertically large cavity containing only a drop or two of pus in the lower part, and filled for the rest with granulations. This whole cavity was not over a quarter of an inch deep. Its floor was exposed dura, covered with granulations. The cavity was cleaned carefully. When I began to work up into the antrum and tympanum, I found the latter apparently shut off. I refrained from opening into these cavities because of the disappearance of tympanic symptoms nine days before, improved hearing in the ear since otorrhea had ceased; shallowness of the process, exposed dura, and, finally, Politzer's authority for the correctness of not entering the antrum as a routine in acute cases. Recovery was uninterrupted. Torticollis was gone in three days, and after three weeks the ear had normal hearing, with the wound entirely closed.

Case 2.—Harry G., 14 years old, was brought to me by his father, a physician in one of the counties near Baltimore, on February 23 last.The boy's history was sore throat, for nine days, with earache on both sides for about half this time. There had been slight left otorrhea, and there was still a little moisture in the left canal. The malleus plexus in each drumhead was injected, Shrapnell's membrane showing the degree of congestion usually seen in a subsiding acute otitis media. The right membrane was intact, the left had a nearly healed perforation in the anterior-superior angle. Neither aural nor mastoid pain was present. Temperature was 100.6; the pulse 90. Hearing was reduced to moderately raised voice at four feet, and watch on contact. The boy was put to bed, given a dose of salts, and a few drops of a solution of cocain and atropia instilled into the ear. In twenty-four hours the temperature was normal, the ear free from discharge. To March 4, eleven days, he was given politzerization, and astringent throat applications. Then there was normal appearance of the drumhead, and hearing had increased to whisper at ten feet, watch R. 36/36; L. 24/36. He now returned to his home.

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* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, W. E. Casselberry and J. N. Mackenzie.

with instructions to come to me again if he developed ear pains or fever. On March 16, twelve days after his return home, he was back with deep-seated pain in the left ear for two days. There was no evidence of relapse of tympanic inflammation, but the mastoid was painful to pressure. Temperature was 99.5. He was put to bed and a saline purgative administered. No local application was used. The next day he was comfortable, and tenderness gone. On the 19th, he was about town, and came to my office during the morning to say he was all right; apparently he was. Early in the afternoon he returned, having an epistaxis which he could not check. I sent him to his aunt's house, where he was stopping, and to bed. That night the temperature reached 100. From this time to the 22d, when I operated, he developed typical symptoms of acute mastoiditis. My friend, Dr. Harlan, saw him the morning of the 21st, and it was decided to apply cold. It had no effect in twenty-four hours. Hearing remained as good as it had been two weeks before. Such part of the drumhead as could be seen for the bulging postero-superior canal wall was normal. On operation at the Presbyterian Eye and Ear Hospital, the mastoid cortex was found necrotic, while, as in the first case, the interior of the process was converted into a large cavity, containing pus and granulations. Here, as seen also in Case 1, the process was shallow, not over a quarter of an inch deep. The sinus was exposed by necrosis of the inner mastoid wall, with pus and granulation tissue on its surface. Entrance to the tympanum was reduced to a thread-like passage, which was enlarged, but no further disease found. After operation, the wound was closed by suture, which held throughout except at the junction of the vertical and a horizontal back incision made to secure more room. Here the wound opened, but healed by granulation in three weeks. Early in May the boy had normal hearing.

Case 3.—William D., 14 years old, was first seen Jan. 24, 1900. For a month the boy had been ailing from colds, and under the care of a homeopath. Ten days before I was given charge of the case, there had been left earache, followed by otorrhea. There seems to have been pretty continuous but mild pain for three days, subsiding as the otorrhea increased. On the 20th, one week after the first symptoms and three days after the disappearance of pain, the discharge ceased, with onset of deep ear pains and left torticollis. He had been kept quiet by opiates and hot applications. I found the ear dry, a healed perforation in the membrane, up and back, no bulging, slight hyperemia of the malleus plexus moderate mastoid pain, increased by pressure. Temperature was 102; pulse 84. Hearing for watch, 14/36, for moderately raised voice, ten feet. Cold was applied during the night. The next morning, with temperature 101, pulse 80, and little or no pain the boy was removed from his home in the county to the Eye and Ear Hospital. After twenty-four hours in bed, and a calomel purge, there was marked improvement. The temperature fell to 99.2; the mastoid was free from pressure pain. There was some earache, apparently accounted for by the hyperemic malleus plexus, and a small tender area in the cartilagenous canal. Under chloroform the membrane was incised along the posterior border of the malleus handle, and the sensitive canal surface opened. On the 27th, the day after incision of the drumhead, evening temperature was 101, and on the 28th, 100. The pulse ranged from 70 to 76. Save for these two elevations, the temperature varied from normal to 99.4, there was no pain, the neck rigidity subsided, and hearing improved. On the 31st he went home apparently well. Two days later—a week after incision of the membrane—evening temperature, taken by the boy's mother, was 101, pulse 80. The next evening's record was 103.4, pulse 90. This was attributed by the family to indiscreet eating, and salts were administered. On the morning of the 4th, there was a drop to normal temperature and the pulse was 62. At the same time left hemicrania, with special reference to the supraorbital region, was complained of, and the past three days' record sent to me. I visited the boy immediately. He was lying on his bed, feeling weak, and suffering from left headache. Temperature was still normal, pulse 66. Hearing for voice, speech and tuning-forks was normal. There was neither spontaneous nor pressure pain in the mastoid. There was no otorrhea, and but for a slight hyperemia at the upper end of my incision in the membrane, the latter was normal. The eyes presented nothing of interest. Functionally and organically they were faultless. Tonic doses of strychnia were ordered, and the headache eased. From the 4th to 7th there developed slowing of the pulse, with occasional intermission. It reached 52 on the 7th, temperature ranging from normal to 100. Headache, confined to the left side, persisted, most severe in the supra-orbital region. The afternoon of the 7th, I found the left pupil two-thirds dilated, with positive but sluggish contraction to light. Accommodation was unaffected. From this to the date of operation—16th—Dr. M. Thomas, neurologist at the Johns Hopkins Hospital, and consulting neurologist at the Presbyterian Eye and Ear Hospital, was associated with me. We watched the case daily, becoming more and more convinced that we were dealing with otitic intracranial disease. The head, eye and ear symptoms remained unchanged. Temperature ranged from normal to 100.5, once, on the 13th, reaching 101.5. The pulse fell as low as 46 on the 9th, but averaged about 50. With the temperature of 101.5 recorded on the 13th, the pulse rose for a little while to 80, but, with the fall of temperature to normal on the 14th, fell to 52. The boy grew weaker each day, and nothing definite developed. The ears seemed absolutely normal. On the 15th we moved him to the city in order to be prepared for operation, if indicated. Early the next morning, with Dr. Thomas's approval, I submitted to the parents the question of exploratory mastoid operation. The apparent recovery of the ear disease, and the significance of the very indefiniteness of such symptoms after middle ear inflammation were explained. But the transient signs of mastoiditis and neck rigidity, present when I was first called, were the only positive guides we had. The boy was failing, and we ought to find his trouble if possible. I operated the same afternoon. It seemed to me that symptoms pointed, so far as they could be interpreted, to an epidural abscess. Headache, slow pulse, slight hyperpyrexia and stiff neck indicated, more or less clearly, meningeal irritation. But we did not account for the left pupillary dilatation, nor, with our present ideas of causation of epidural abscesses—contiguous bone necroses—did the local conditions indicate the probability of finding a necrotic area to guide us. Sinus thrombosis and leptomeningitis were hardly more than possibilities. We had waited for development of symptoms of cerebral abscess, but they were still, in our opinion, too vague to justify exploration unless bone necrosis showed the way. I had in mind the remark Dr. Knapp, in his short but comprehensive article in "The American Text-Book," by De Schweinitz and Randall: "Meningeal irritation is * * * difficult to distinguish from intracranial inflammation. The course will show; and if on account of the persistence of alarming symptoms an operation is decided on, the condition exposed by the chisel will lead to the diagnosis." My intention was to open into the mastoid antrum and tympanum and to stop there unless dead bone told me where else to go. The process was cellular, and no difficulty was experienced in reaching the mastoid antrum and aditus. As the probe passed into the latter there was a gush of clear fluid, which came out as though under great pressure. The opening to the tympanum was enlarged, and the bone found apparently healthy. Then attention was turned to the tip. and in a large cell here a little pus was found. I regret that no culture was made from it. A few hours after operation the temperature was 99.6, the pulse 75; it fell to 58 next morning, and then gradually rose to between 60 and 70 the first ten days, then remaining steady at about 76 until the boy was discharged. Temperature reached 100 during convalescence, but after the tenth day kept below 99. Headache disappeared at once, and the day after operation the pupils were equal. The boy was discharged from the hospital two weeks from the day of operation. He has been entirely well for fifteen months, and now has normal hearing.

An interesting question is, when did the mastoids become infected? In the second case there was no sign of mastoiditis until twelve days after tympanic disease had disappeared. Of the other two, Case 1 had neck rigidity throughout. In Case 3 there was this rigidity at first, with sudden cessation of otorrhea, and simultaneous mastoid pain, disappearing in two days and never returning. Dench speaks, in his text-book, of neck rigidity in otitic meningitis, and mentions difficulty in turning the head from side to side as occurring in mastoiditis in children. In connection with temporary pain and later developments, in the last case, this rigidity probably meant mastoid involvement. If we add to it, in Case 1, the extensive destruction of the cellular structure and inner mastoid wall, found on operation, and the same condition found in Case 2, though there were no early symptoms, the probability is great that the cells were infected in the beginning, and inflammation progressed although tympanic disease subsided. My friend, Dr. Lee Cohen of Baltimore recently called my attention to reports by Zaufal[1] and Korner[2], of similar cases, due to infection from the diplococcus pneumoniæ. Both authors regarded the infection as having remained latent since the middle ear was first affected. In the last case meningeal irritation, or hyperemia, was probably the cause of the pupillary dilation, headache and slow pulse, all of which disappeared after evacuation of fluid held under tension in the antrum. Reflex influence from increased pressure suggests itself as a possible cause of symptoms. Friedrich gives a most interesting account of these reflexes in his book "Rhinology, Laryngology and Otology in General Medicine." Turning of the eyes toward the side from which sound proceeds is a well known reflex. Others mentioned, but which I have never seen, are nystagmus, ocular palsies and disturbances of pupillary action. He quotes a case of Lucæ in which ear syringing produced vertigo if the eyes were open, but not if they were closed. Cerumenous deposit has been known to cause nystagmus. In all these reflexes, however, the reflex course must lie in the vestibular, or possibly the cochlear, nerve. There is more difficulty, he says, in tracing it along the cochlear. Such reflex is always bilateral. In my case but one pupil was involved, and there was no symptom of larbyrinthine trouble. The case is interesting, apart from persistence of the mastoiditis, after tympanic disease subsides, as showing how mastoiditis can stimulate more serious lesions or, possibly, produce dangerous meningeal hyperemia.

As to the use of cold, in these three cases it was employed and in two its use was apparently followed by benefit. I was taught to use cold years ago, and have done so frequently. Yet, I doubt whether I have even seen a case of threatened mastoiditis "aborted" by it which, looked at in the light of other experiences, would not have subsided without it. In cases in which I have subsequently operated, I believe that all obtained from the faithful and persistent use of cold for several days was masked symptoms. Dr. J. O. Tansley presented a most instructive paper on this subject to the American Otological Society, in 1899. His conclusions are about the same as experience has taught me, with the addition of increased trouble from hemorrhage and difficulty in distinguishing healthy from diseased bone during operation, slow recovery, and demonstration of the impossibility of securing a sufficient degree of cold to kill organisms in the mastoid. He thinks cold masks symptoms. I am inclined to agree with him.

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DISCUSSION.

Dr. E. B. Dench, New York City—I think the histories of the cases very unique. As to the question of infection, I think that was coincident or followed closely upon the middle ear trouble and the germs were simply not sufficiently virulent to develop until after the subsidence of the trouble in the middle ear. I agree with the Doctor in regard to the use of cold. I recall two cases that I saw after my return from a vacation. In both of these cases it was supposed that the inflammation had been aborted by the use of cold. In one case an operation could not be done because of pneumonia, and after the pneumonia was over the symptoms had apparently disappeared. When I returned I opened a brain abscess. In the second case, everything went along well until several weeks later, and I then operated and found an epidural abscess about the size of a pigeon's egg. Both cases had apparently improved by the application of cold, but both afterwards required operation.

Dr. Herbert Harlan, Baltimore—Dr. Woods refers to closing up the wounds and allowing one small point to heal by granulation. My rule has been to close up these cases, and I have yet to regret adopting that procedure. If we do not close them up so absolutely tight as to make it difficult, we have a soft blood clot, and if suppuration does take place it breaks down one or two stitches and the dressing can be carried on very nicely. I would refer to one case especially, a little girl I was asked to operate upon; it was an acute, violent case, with pain, swelling and pus. The operation was a complete one. On the tenth day it had healed up completely. She was then perfectly well and she asked permission to go back to school the following Monday, which was just two weeks afterward. The scar was scarcely perceptible. I have had a great many cases heal up completely and with almost no perceptible scar at the end of two weeks. I had the pleasure of seeing the writer of the previous paper, Dr. Dench, operate in New York, and I would make the suggestion that he close up a half dozen or so in this manner, and I am sure he will be very well satisfied with the method. In the few cases in which you do not get complete healing you have only a comparatively small opening and the final deformity is certainly less. The cases that you treat in the other way require a long time, and do not show so little deformity. The sinus cases, of course, have to be packed. But where these cases can be closed up I believe it is advisable to do so.

Dr. Dench—Will you kindly explain the technique of that operation? Do you allow the wound to fill with blood?

Answer—Yes.

Dr. Dench—You simply allow it to fill with blood before you suture?

Dr. Harlan—No; I just suture it up entirely independent of the inside, but it always does fill up with blood. In most instances I make a cross incision so that I have a T-shaped wound. It simplifies the operation and gives you more room to work in. If one stitch does break down it usually does so at the branches of the incision where you did not perhaps have complete coaptation. I use sometimes silver wire and sometimes silk, but I rather prefer the silver wire.

Question—Does the discharge cease?

Answer—In most cases it does, and you do not have any more discharge from the ear.

Question—Is it necessary to have the discharge cease from the ear to have perfect healing in this way?

Answer—No; I have known it to continue for a week or two.

Dr. Emil Amberg, Detroit—I would like to call attention to the abuse of the nasal douche, and I think we can do much towards preventing middle ear disease by calling attention to the disagreeable results following the use of the nasal douche. Some general practitioners, especially when treating children, use it too frequently.

Dr. George C. Stout, Philadelphia—The Doctor speaks of fluid being let out; what was that, blood?

Answer—I wish I knew, Doctor. It simply made a gush and escaped. I think it came from the mastoid antrum.

Dr. Cornelius Williams, St. Paul—The case mentioned reminds me of the case I first operated upon. A boy 6 years old had mastoiditis and died a couple of days afterward of meningitis. It occurred to me that this fluid might have come from the cranial cavity, because I can not see where else it could come from.

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[1] Prager Med. Woch., 1889.
[2] Eitrige Erkrankun des Schlafenbeins.

Dr. Hiram Woods, in closing—In regard to the shutting up of these wounds, after Dr. Blake's method, I think he makes it pretty clear that it depends largely upon the thoroughness of the cleaning, and if an area of infection has been left behind you are likely to have trouble. In the case I have mentioned, there was a large wound with a T-cut, and it all healed except a small area, a quarter of an inch in diameter, at junction of two cuts. That closed in two weeks, which is a considerable gain over the ordinary time. And then the wound is not one that can not be readily opened. At the Presbyterian Hospital we have treated several cases in this way. Some healed promptly and entirely; in others, there was some breaking down; in all there was a perceptible gain of time. Of course, the onset of high temperature or any symptoms of sepsis would indicate opening the wound. In regard to the use of the Politzer air-bag, I confess I am rather opposed to the orthodox teaching. In acute otitis media without evidence of fluid, without bulging of the membrane, but with hyperemia of the malleus plexus, I think one can do good with politzerization. I am quite sure I have seen the pain of otitis media relieved by application to the nasal passages of cocain, followed by antipyrin solution and gentle inflation of the middle ear. In cases recovering from suppurative otitis media, I invariably use politzerization. I read an article a few months ago in which the writer insisted that if those of us treating these cases would lose our Politzer air-bag we would not have mastoid cases. I can not agree with him. In regard to the question as to what the fluid was and where it came from, in my third case, I would like very much to be able to answer. It occurred to me, as the Doctor said of his case, that it might come from the cranial cavity. I curetted down until I came to apparently solid bone, and failed to find any necrotic area. The symptoms seemed to point to meningeal hyperemia produced by mastoiditis. What the fluid was I do not know, unless it was serum.

LEITER'S APPARATUS FOR THE EAR, MODIFIED BY AMBERG.*

EMIL AMBERG, M.D.

DETROIT, MICH.

The modified Leiter's apparatus, for the application of hot and cold water to the ear, is made of inflexible material. The long lead tubing is avoided. The apparatus is slightly bent, adapting itself to the contour of the head.

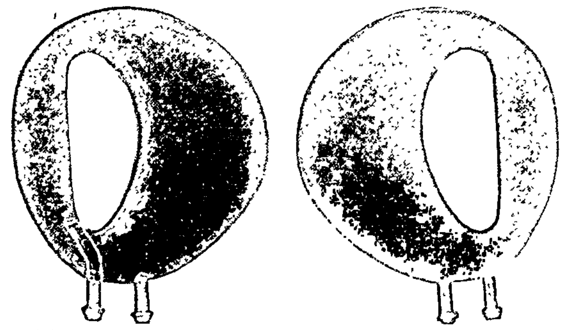

Fig. 1.—Unfinished. Fig. 2.

Amberg's Modification of Leiter's Apparatus for the Ear.

Figures 1 and 2 fully explain the construction. The short tubes can be easily cleansed. Different sizes are required for different ears. The opening of the inlet is about twice as large in diameter as the opening of the outlet. For this latter idea I am indebted to the instrument maker, Charles Karlson, of Detroit.

THE PRESENT STATUS OF RENAL AND URETERAL SURGERY.

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SAN FRANCISCO.

The treatment of diseases of the kidneys by surgical means dates back as far as the tenth century when we find that operations were described which had for their object the removal of accumulations in or about the kidney. These operations were permissible only in cases where the disease had been progressing for some time, and where the evidence of the accumulations was plainly visible. During almost ten centuries very little progress was made, and it is only within the last ten or fifteen years that any marked advance has been made in the diagnosis and surgical technique of renal and ureteral affections.

The advance in surgical methods was due principally to the improved methods devised for the purpose of making accurate diagnoses. Until a few years ago we were unable to determine positively the presence of calculi in the kidney or ureter before operating, and even at the time of operation, calculi were overlooked which were found at the postmortem. This is now almost inexcusable, except in very fleshy patients, because we possess in the *x*-ray a means, not only of determining the presence of calculi, but also of showing their size and location. The best surgeons have reported cases in which they have cut down on the kidney in order to remove a supposed calculus, and have not found one, and on the other hand, cases have been allowed to drift along for years without operation because the symptoms were not sufficiently marked to warrant the diagnosis of stone, and the postmortem disclosed the fact that the individual might have been saved years of misery, and that his life might have been prolonged if a correct diagnosis had been made.

The following case illustrates the last statement:

J. V., aged 62, was operated on by me in January, 1899, for several perineal fistulæ with two openings into the urethra, the cause of which was ascribed to a fall on the perineum, which had occurred ten years before. The result was perfect, except that the stricture, which was the immediate cause of the fistulæ, had to be dilated every month or two in order to keep the urethra patent. The patient remained perfectly well until July, 1900, when he began to complain of pain in the right lumbar region, which was increased after any exertion. Examination disclosed absolutely no tenderness on pressure, and no mass could be made out on palpation. The pain was described as dull and aching in character, and did not radiate down towards the penis, but was located directly over the right kidney, at the back. Examination of the urine showed large quantities of pus and numerous streptococci. The reaction was acid and it contained an excess of uric acid. A diagnosis of pyelonephritis was made and after having treated the case for several weeks with urinary antiseptics—urotropin, hydriodic acid, etc.,—I advised operation to drain the pelvis of the kidney, and prevent, if possible, the extension of the disease to the other kidney.

The patient refused operation and the medical treatment was continued without definite result. For a week or two he would feel quite well, and then the pain would gradually become worse; and it was noticed that when the urine contained large quantities of pus, the pain would be very much less, and that, when the pus began to diminish, the pain would slowly increase. At no time was there any blood in the urine, and in spite of the fact that there were large numbers of streptococci present, there were neither symptoms of cystitis, vesical tenesmus, or frequent urination or pain during or following the passage of urine. The patient was suffering from mitral insufficiency, and had had frequent attacks of articular rheumatism, and therefore I did not urge operation. He was able to attend to his work, which was clerical in character, until early in December, 1900, when he was obliged to go to bed on account of an attack which appeared to be multiple neuritis, at which time he suffered intense pain almost everywhere excepting in the region of the right kidney.

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* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, W. E. Casselberry and J. N. Mackenzie.

The temperature ranged between 99 and 104 F., pulse 120. After two weeks of this condition, he began to feel something in the right lumbar region, and I was able for the first time to detect a mass which appeared to be connected with the right kidney, and was tender on pressure. It was extremely difficult to palpate accurately on account of the thick abdominal walls, but as the temperature remained high and the urine contained pus in large quantities, I insisted on immediate operation.

A lumbar incision was made, skirting the anterior border of the latissimus dorsi muscle, while the right arm was pulled backward in order to bring this border as near the middle of the back as possible, thereby avoiding cutting through the muscle; and the lumbar fascia was then cut through at the anterior border of the retracted quadratus lumborum. This incision enables us to reach the kidney without cutting through any muscular tissue, but if it becomes necessary to obtain more room, we may do so by cutting through the abdominal muscles near their attachment to the crest of the ilium. This is necessary only when it is desired to reach the ureter, or when the abdominal wall is very fat.

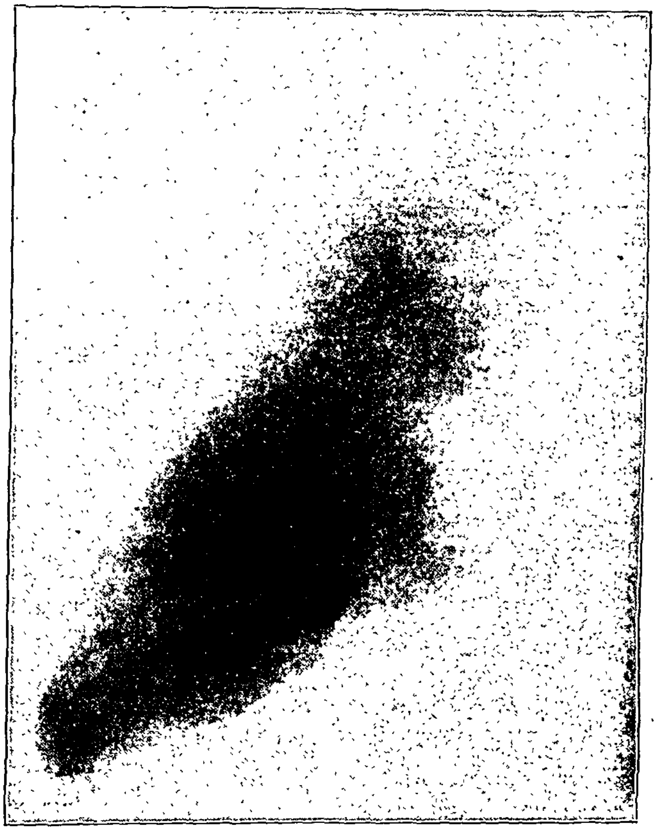
Calculus removed from kidney postmortem.

The kidney was found enlarged to three times its normal size and fluctuated as far as I could reach. It was incised at the presenting part and about half a pint of pus evacuated. The finger in the pus pocket did not reveal the presence of any calculus, and as the patient's condition did not admit of any extended exploration, drainage tubes were inserted and dressings applied. He rallied nicely from the operation and for three weeks appeared to be doing well, the wound discharging less and less and granulating satisfactorily. His heart suddenly began to act badly, increasing from 60 to 160 in a few hours, and he died just four weeks from the date of operation.

I was able to obtain the right kidney only, and so can not say whether the left kidney was diseased or not, but the right kidney presented a most interesting state of affairs. Projecting from the opening which I had made at the time of operation, was the end of a large calculus, which was evidently the cause of all the renal affection, but which had given little evidence of its presence. The calculus was nine centimeters long, three and a half centimeters wide at the widest point and a little over two centimeters thick.

The peculiar feature about the case is the fact that the patient had never had the slightest pain in the right side prior to six months before his death, although the calculus must have existed for several years. Cases of this kind illustrate the necessity of examining all patients for stone, who complain of pain over one kidney, or who have pus in the urine, which can be shown to be renal in origin.

Through the inventive genius of Dr. M. L. Harris we are enabled to collect the urine from either kidney separately, and to determine exactly the quality and quantity of urine which each kidney secretes in a given time. This invention is one of the most brilliant that has been made in recent years, as it places the surgeon in a position to know positively before operation whether his patient has a properly functionating kidney on one side, if he has any intention of doing a nephrectomy on the other. It is of much more practical value than the male cystoscope, because it can be used by any ordinary practitioner, while the male cystoscope requires extraordinary skill, and in cases where there is the slightest hemorrhage from the bladder or mouth of the ureter it is impossible to use it successfully. There are few if any conditions where the Harris segregator can not be successfully used.


Skiagraph showing calculus in pelvis of kidney.

In using this instrument, if we wish to be sure of having the elevator between the two catheters we must be careful to adjust it in position in the rectum before turning the catheters down, and to see that it is in the median line.

In the female the segregator is not so essential because we can catheterize the ureters directly by means of Kelly's cystoscope and catheters. This enables us not only to collect the urine from each kidney separately, but to determine the patency of the ureter in cases of renal calculus, and if any obstruction is noted, we can tell by coating the tip of the catheter with soft wax whether the obstruction is due to a calculus impacted in the ureter or not. This is determined by examining the coated tip with a magnifying glass after having rubbed it against the obstruction; if a stone is present, we will find that the wax is scratched, whereas if the obstruction is due to any other cause, the wax will remain smooth.

Showing loop of small intestine anastomosed between ureter and bladder.

After determining the exact locality of a renal or ureteral calculus, it is comparatively easy to effect its removal. If the stone is in the kidney, it is best reached by cutting down according to directions previously given and bringing the organ outside, which can be done in all cases where the abdominal wall is not unusually thick. Even where there is a large amount of fat, the kidney may be brought in full view and the pelvis reached by making an incision through the kidney substance from a quarter to a half inch behind the median groove, being careful not to prolong it downward beyond the lowest point of the pelvis, otherwise we may have a urinary fistula which will be difficult to close. The hemorrhage is usually slight and may be controlled by pressing the renal vessels between the index and middle fingers while holding the kidney in position. It has been found that the incision through the kidney substance is less likely to leave a fistula than an incision into the renal pelvis.

The wound in the kidney should be sutured with catgut and provision made for drainage of the external wound. If a stone is found impacted in the ureter it may be reached either by the lengthened lumbar incision, or by the trans-peritoneal route, which will have to be used if the calculus is low down.

The ureter is to be incised longitudinally, the stone extracted, and the cut sewed with fine catgut. It is advisable before doing so to pass a bougie up into the pelvis of the kidney, and also downward into the bladder to be sure that the ureter is patent.

The following case is of interest in this respect:

W. W. sent for me to get relief from pain which had been gradually getting worse for several days. He located the pain at a point on the left side of abdomen corresponding to the place where the ureter crosses the brim of the pelvis, and stated that it occasionally radiated toward the end of the penis. He was unable to pass water and I withdrew it with a soft catheter which entered the bladder without difficulty, showing that there was no stricture of the urethra. The pain increased, and when morphine had no further effect on it, I used chloroform, and the patient was kept partly under the influence of this drug for hours at a time. A skiagraph was made, as the symptoms all pointed to a stone impacted in the ureter at a point where it crosses the brim of the pelvis, but the result was negative.

The condition was becoming desperate and I decided to operate. I opened the abdomen through the border of the left rectus and cut through the peritoneum over the ureter. It was found dilated to the size of the index finger, and was followed down to the bladder without finding a stone. I opened it with a small longitudinal incision, and passed a probe upward into the pelvis of the kidney, but was unable to pass it downward into the bladder. There was a complete obstruction of the ureter at its junction with the bladder, but no foreign body could be discovered after the most careful palpation. The opening in the ureter was closed with fine catgut, and the abdomen sutured in three layers.

A lumbar incision was then made and the pelvis of the kidney opened, in order to allow the exit of urine, otherwise the pressure of urine in the ureter would have caused leakage at the point of suture.

The kidney drained a large amount of urine for two weeks, when it was noticed that it gradually lessened, at the same time the amount passed per vias naturales correspondingly increased, until the kidney ceased to drain through the artificial opening and the patient was passing between 40 and 55 ounces of urine in 24 hours. Examination of the urine previous to operation disclosed nothing abnormal, except a diminution in quantity, and a slight increase in specific gravity; and it remained in this condition until the drainage from the other kidney began to diminish.

The urine then showed large numbers of pus cells and renal epithelium, and increased in quantity until five weeks from the day of operation when the amount was normal. The pus and epithelium kept diminishing, but did not disappear until several weeks later. The actual cause of the obstruction was not definitely ascertained, but was probably due to some inflammatory disturbance at the base of the bladder, which caused pressure on the opening of the ureter. By draining the kidney the pain and irritation caused by the distention of the ureter were relieved, and as the inflammatory process subsided, the urine began to flow into the bladder through the orifice which had been occluded.

Some of the most important work which has been attempted on the ureters has been the endeavor to find a method by which the urine could be deviated from its natural course into the bladder, either for the cure of exstrophy of that organ or in cases in which it is so diseased that its removal is indicated. Implantation into the rectum has been done by many operators in many ways, but so far the results are not encouraging, because practically all patients suffer from ascending pyelonephritis sooner or later. During the past year I have been doing some experimental work in the laboratory of the Medical Department of the University of California, with the following results:

Before I had had the pleasure of reading the work of Gaspare D'Urso and Achille de Fabri in this line I began my experimental operations by utilizing a piece of the small intestine to bridge over a gap between the cut ends of a ureter. A loop of bowel, preferably the ileum, which is found lying near the site of the removed ureter is chosen, and isolated from the fecal tract by cutting the gut transversely across in two places, leaving a piece sufficiently long to stretch easily from the bladder to the proximal end of the ureter. Great care must be taken not to tear the mesentery, or the vitality of the bowel will be impaired and disaster result. The proximal and distal ends of the cut intestine are united by means of the Murphy button, leaving the short piece free; this is then thoroughly washed out with a 1 to 1000 solution of formalin, and the other end partly closed by inverting at least one-quarter of an inch of the gut. Sufficient space is left unclosed to introduce the ureter, which must be drawn in by means of fine catgut sutures, for a distance of half an inch; this insures a large surface for rapid union and prevents leakage. Three or four sutures are placed to hold the ureter in position. The bladder is now opened near the fundus, the incision being of the same length as the width of the flattened bowel, the lower end of which is sewed to the bladder incision with through and through sutures of catgut. A second layer of sutures is placed one-eighth of an inch beyond the tract, taking in all except the mucus layers.

Three operations were done, and the results were perfect, except in the last dog, which died five weeks after operation from ascending infection, due to the fact that the bowel was not sufficiently washed out. The specimens from the other two cases were perfect and the kidneys did not show any evidence of infection. One dog was allowed to go three months and the other, six months before removing the specimens.

These experiments show positively that we can replace a portion of the ureter by a piece of bowel without very much risk, and the operation is preferable to nephrectomy or rectal implantation.

In case both ureters were cut the operation was modified somewhat, the loop of bowel being cut long enough to reach from one ureter to the other, and dipping low enough to touch the bladder, with which a lateral anastomosis is made in the same manner as though a gastroenterostomy were being done with sutures. One operation of this kind was done, but the dog died shortly after from an overdose of strychnin, and too soon to determine the feasibility of the procedure.

An operation for the complete removal of the bladder, and its replacement by a loop of intestine although rather extensive in character, will be found useful in some cases, and can be made much safer by doing it in two stages. The first stage consists in isolating the loop of intestine and waiting until the individual recovers before undertaking the second stage, which consists in implanting the ureters into the isolated loop, then dissecting the bladder from all its attachments and removing it, sewing the urethra into the lower part of the new bladder. This operation was done on one dog, who survived three days, and I believe would have lived if we had been able to catheterize it, as we found postmortem that the new bladder had become enormously distended, and had finally leaked at its junction with the urethra.

I believe that these operations will find their place in the surgery of the future, and as our technique improves, the danger of such formidable operations will grow less, and we will be able to save lives which are now lost on account of our timidity.

A NOTE ON THE USE OF THUJA OCCIDENTALIS IN REMOVAL OF PAPILLOMA OF THE LARYNX.

JAMES MOREAU BROWN, M.D.
CHICAGO.

Several cases of papilloma of the larynx have come under my observation, occurring in the practice of Dr. Moreau R. Brown, which were treated by removal of parts with forceps and the subsequent application of thuja. The following case is one in which good results were obtained by this treatment.

Mrs. W., an elderly woman, had been hoarse for about two years, had slight dyspnea, and at times noticed some little noise located in the larynx during respiration. She tried change of climate several times but found little relief. Upon examination with the laryngeal mirror, a papilloma about the size of the end of a finger was seen springing, with a broad base, from the false vocal cord of the right side, and extending beyond the true cord to the median line. The growth was of an unusually hard consistency. A portion of it was removed by the laryngeal forceps and tincture of thuja applied by means of a cotton swab. The piece removed was subjected to a microscopic examination and found to be papilloma. It having been found impracticable to remove the papilloma at one sitting, the patient returned at intervals of about a week and the treatment as above outlined was employed. At each visit the tumor was found to be perceptibly diminished in size. After it had been reduced to about one-half the original size, the thuja only was applied without any further attempt at removal with forceps and under this treatment the tumor entirely disappeared. After an interval of many weeks there was no indication whatsoever of the recurrence of the growth.

In addition to the foregoing, cases of a recurrent type have come to my notice which have entirely disappeared, with no evidence of recurrence after several years, in which thuja had been employed. Also a case of multiple papilloma in an adult, where the growth recurred rapidly after removal with forceps and where the thuja caused great shrinkage of the growth and consequent relief to the patient. In this case, although the sittings were but few and the results satisfactory to the patient as well as to the operator, the former disappeared from view and I am unable to state whether or not there has been any recurrence of the growth.

Venetian Building.

The Doctor's Little Daughter.—Here is a story of a little girl, the daughter of a local physician. She is a bright child of 6, and has been much petted by her admiring friends. Perhaps this has spoiled her a little, but she is so sweet and entertaining that visitors can't keep their hands off of her. One of these visitors, a new neighbor, made a call on the little maid's mother, and it wasn't but a few moments before the little maid was on her lap. In the chatter which followed the woman made some allusion to the little one's grandmother. "Why, didn't you know?" cried the child. "Know what, dear?" said the visitor. "Why," answered the child, "grandma is dead, and grandpa is dead, and Aunt Jane is dead—and most all of papa's patients are dead, too!"—*Albany Times-Union.*

SCIENTIFIC RESEARCH.

THE INDISPENSABLE BASIS OF ALL MEDICAL AND MATERIAL PROGRESS.*

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ONE HUNDRED YEARS AGO.

The medical orator of to-day, standing, as it were, between two centuries, must naturally, whilst regarding the present, glance also backwards and forwards. Now what was the condition of medicine a hundred years ago? Well, thanks to the work mainly of Haller, of Göttingen, and of Morgagni, of Padua, the old mysticism had to a large extent been dissipated, and a physiological foundation was laid by the first, and a pathological one by the second, for that vast superstructure of facts on which are based the medicine and surgery not only of 100 years ago, but of to-day. Haller and Morgagni were true disciples, though at a considerable interval, of Vesalius, who, following Mondino de Luzzi, first broke completely through the deadening influence of the Galenical tradition, and founded human anatomy on direct observation alone. Then it was that the paralyzing effect of the Roman edict of the first century was effectively removed, that for 1200 years had arrested the progress of anatomy, and with it all medical and surgical progress, by forbidding postmortem examinations —just as many good people now would tie our hands in other directions, and keep us stagnant till the world grew wiser.

It was that great medieval ruler, the Emperor Frederick II, of the illustrious house of Hohenstaufen, who once more, after its long neglect, revived the study of practical anatomy in the thirteenth century, by forbidding the practice of surgery to any but well-instructed anatomists, an injunction which led to the establishment of a school of practical anatomy at Salerno, in Lower Italy, and soon afterwards of another at Bologna.

The schools of Salerno and Bologna, with those of Milan, Montpellier, and Padua were, however, still too reverent of antiquity, and it was not before the advent of that greatest of anatomists, Andrew Wittings, commonly known as Vesalius (from Wesel on the Rhine, the original home of his family), who taught at Padua, Pavia, Bologna, and Pisa between 1539 and 1564, the reappointed, though never the actual successor of his own pupil Fallopius at Padua, that modern anatomy really began. I say reappointed, for he had been professor before at Padua, when he was only 23 years old, and after long wanderings, occasioned by accusations of impiety, had been honorably recalled, when, owing to a shipwreck, he lost his life—of such priceless value to science—at the too early age of 49. I must not attempt to describe the discoveries of Vesalius, though I may mention that, apart from his well-known corrections of the osteology of Galen, it is to him that we owe our first exacter knowledge of the inferior vena cava, the vena azygos, the ductus venosus, the cerebral ventricles, the peritoneum and the internal ear. One hundred and fifty years later arose one of Boerhaave's scholars, Albrecht von Haller, of Göttingen—himself a great anatomist—who, animated by the teachings of Vesalius, by his love of truth and Nature, and by an aptitude for physiological research, which was all his own, stands forth as the father of modern physiology.

In 1791 Morgagni, of Padua (a pupil of Valsalva, whom he constantly quotes), published what Matthew Baillie styled his stupendous work on the "Seats and Causes of Disease, investigated by Anatomy," thereby at once earning the title of the Father of Pathology.

Vesalius, Haller, and Morgagni were the true founders of modern medicine, and we can not even now peruse their writings without instruction and surprise. It was Glisson—Harvey's successor in the Anatomical and Surgical Chair of the College of Physicians (not Royal in those days)—who first declared that the great characteristic of living matter is that it moves, the ground of motion being irritability; but it was Haller who first distinguished between muscular irritability and nervous sensibility (the vital properties of Bichat), and explaining the great facts of physiology as largely dependent on both, removed at once the *Deus ex machinâ*, the extraneous spirit, so fondly imagined by the old physicians. The Pneuma of Hoffmann, the Nervous Liquor of Mead, the Anima of Stahl, the Archæus of Van Helmont, being no longer hypothetically needed, were gradually discarded. So it was that Haller and Morgagni, the great physiologist and the great morbid anatomist of the eighteenth century, led up to the improved practice of 1801 and later. This was to some extent due to John Brown, of Edinburgh, the representative in modern times of the so-called "Methodists" of the first century. Brown it was who first divided diseases into sthenic and asthenic, who first gave beef-tea in debility and who first fed fevers. The Brownian or Brunonian system, or the plan of stimulating or lowering as required, obtained a large vogue at the beginning of the nineteenth century, and still largely influences the practice of to-day. It must be freely conceded, however, that the highly philosophical doctrines of Brown were by no means judiciously or consistently carried out by himself and his immediate successors.

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A hundred years ago Edward Jenner was practicing in Cheltenham, and here the *genius loci* reminds me that I must not dismiss our greatest medical celebrity with a single line. To me the most interesting point about Jenner is that he was educated by John Hunter, which is to say that he became and remained a naturalist. He was not, however, neglectful of medicine—indeed he manufactured an improved tartar emetic—but he was at first more interested in fossils, hedgehogs, and cuckoos. His celebrated paper on the cuckoo, describing for the first time the inconsiderate conduct of the young cuckoo to his fellow-nestlings, need not be referred to here further than to state that for a long while he reckoned a personal visit to all the young cuckoos in his neighborhood as the first of his or his nephew's duties in May and June. It was this kind of training in natural observation which led at last to such productive fruit as his celebrated "Inquiry into the Causes and Effects of the Variolæ Vaccinæ," published in 1798. Wishing to test a tradition of Berkeley, where he was born and practiced at first, as to the smallpox immunity conferred by cow and swine pox, and fulfilling Hunter's injunction, "Don't think, but try," he made his first experimental inoculation from swine pox on his eldest son, aged 1½ years, in November, 1789. It was nearly eight years afterwards before the next step was made, for it was on May 14, 1796 (two years before the publication of his book), that lymph was taken from the hand of Sarah Nelmes, of Berkeley, who had been infected by her master's cows, and was inoculated into the arms of James Phipps, a healthy boy, 8 years of age. A typical vesicle and areola were produced, and two subsequent attempts to inoculate James Phipps with smallpox proved perfectly futile. Jenner next sent lymph to London to Mr. Cline, whose patient also resisted all attempts to inoculate him with smallpox. Jenner was thereupon invited to London, and wrote from Cheltenham in reply on September 29, 1798, his often-quoted letter in which he expresses his preference for the "lowly and sequestered paths of life, the valley and not the mountain," declaring his contentment and contempt of fame and fortune, "fame being only a gilded butt, forever pierced by the arrows of malignancy." He took up his regular abode in Cheltenham in July, 1800, living at first in the High Street, and afterwards at 8 St. George's Place. Though often absent he spent much of his time here for many years, as letters of his dating from 1802 to 1813 testify, vaccinating gratuitously at Alpha House Bayshill, the residence of the present Mayor of Cheltenham, all the poor who made application to him.

You know the rest, the rapid extension of the practice the world over, the parliamentary grants to him of £30,000, his medals and diplomas and honors from every nation, and the tardy and unwilling acceptance of his teaching by his own. Later came detraction, obloquy, and neglect, followed at last by

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* Abstract of the President's Address, delivered at the Sixty-ninth Annual Meeting of the British Medical Association, Cheltenham, July 30, 1901, by courtesy of the Editor of the British Medical Journal.

443 smallpox deaths in 1896 in his own county, in the neighboring city of Gloucester; and finally the perilous experiment of leaving the decision as to whether vaccination should be done or not to the discretion or indiscretion of each head of a family. I am bound, however, to state that the perilous experiment is turning out much better than could have been expected. Truly you will mourn with me over those 443 preventable deaths in Gloucester, 1 of them of a vaccinated and 297 of them of unvaccinated children under ten years of age, when you reflect that during the same year and the next one there were, in well-vaccinated and revaccinated Germany, only 15 deaths from smallpox throughout a population of 53,000,000. Does anyone want more proofs? If so, they have them in the records of our own profession, which suffers from a general zymotic mortality far beyond, but from a smallpox mortality far below, the average; and this though we of necessity are much more than the general public exposed to the infection of smallpox. We, ladies and gentlemen, know the truth and how to act up to it, and most earnestly do I wish success to Dr. Bond and to the Jenner Society in their truly philanthropic enterprise of combating error and disseminating truth. I will say no more of Jenner and his work, though in this town, the former center of his activity, I could not well say less. I must, however, add that the sad experience of Gloucester has not been fruitless, and that Jenner's county is now perhaps the best protected against smallpox of any in England.

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THE MEDICAL STANDPOINT OF TO-DAY THE RESULT OF SCIENTIFIC RESEARCH.

Pondering over medicine as it stands to-day, the main fact that strikes me about it is, how much more it owes to the biologists and to the men of pure science than to the so-called practical men. The practical man is indispensable, but he is not like the great biologists, a High Priest of the Arcana of Nature. The cell theory, for example, lies at the very foundation of modern medicine, and this theory certainly originated entirely with the biologists. The term cell was first used in reference to plants in the seventeenth century (1665) by Hooke, who, with his contemporaries, Grew and Malpighi, distinctly foreshadowed the cell theory of modern times. The cell nucleus was actually seen and drawn by F. Bauer so long ago as 1802, though it was not before 1831 that it received that name from Robert Brown, the botanist. Little notice, however, was taken of the subject before the publication of Schleiden's paper on "Phytogenesis" in *Müller's Archives* for 1838, in which he asserted that "every plant is an aggregate of individualised, independent, separate beings—namely, cells." Theodor Schwann, also in the next year, made a similar assertion regarding animals in his "Microscopical Researches," of which, and of Schleiden's paper also, the Sydenham Society published a translation in 1847.

Schwann was first impelled to his conclusion by noticing the extraordinary resemblance between the microscopic structure of the chorda dorsalis of the tadpole and that of the onion and of certain pollen matrices. Schwann, however, fell into error in asserting that cells arose spontaneously, and here he was set right by Barry in 1838 and later by Goodsir, who established the direct descent of every cell from a pre-existing one. This is Virchow's "continuity of life," his *omnis cellula e cellulâ*, the aphorism which he offers us in the place of Harvey's *Omne vivum ex ovo*. That *punctum saliens*, the nucleolus, was first noticed by Schleiden, though it was Schwann who gave it that name. Next came Hugo von Mohl in 1846, who recognized what we now call protoplasm in the cells of plants; the identity of which with a similar substance in the cells of animals was soon afterwards proved by Cohn and Remak. To Schwann a cell without a wall and a nucleus was no true cell, but Leydig in 1856 adduced pus and mucous corpuscles as instances of wall-less cells, and so step by step the ground was cleared for the now historical Cellular Pathology of Virchow, which influenced so profoundly the medical thought and practice of forty-three years ago. To Virchow as to Schwann a cell wall was a necessity, though this idea was soon afterwards dispelled by Lionel Beale and independently by Max Schultze in 1861. To Max Schultze we owe not only the extension of the term protoplasm (the bioplasm or living matter of Beale) to the contents of animal cells also, but the best description of an animal cell, namely, that it is a protoplasmic mass containing a nucleus; though even this last, we may add, is non-essential. All this work on the cell theory gave the original inspiration to Pasteur, and Pasteur leads up to Lister, of whom I will forbear to speak, for he needs no speech, though he might well say of himself, *Quæ regio in terris nostri non plena laboris!* I may mention this significant fact, however, that visiting the Polyklinik in Vienna two years ago, I noticed that the only name of a contemporary Briton inscribed on its façade was that of Lister. The cell theory, further leads up to bacteriology, the most imposing and the most impressive department of medical biology.

Now bacteriology, which originated with the labors of Cohn and De Bary, rests on cultivation and staining; and if year by year more and more of the germs of disease are recognized, it is because improved methods are constantly being perfected for coloring and making visible these formerly invisible entities. The modern practice of staining, so essential to the physician and surgeon of the day, began with the botanists Göppert and Cohn, who used carmine in 1849, and here again the pure scientists showed the way to the practical investigators of medicine, such as Gerlach of Erlangen, who first applied the method to anatomy. In 1871 and later Weigert succeeded in demonstrating nuclei by ammoniated carmine, and cocci by methyl violet. In 1872 Eberth and Wagner began the use of that admirable stain, hematoxylin. Looking through some old preparations of mine not long ago, I found that most of those stained with aniline dyes were faded, but those stained with hematoxylin were still bright and good. In 1879 Ehrlich enunciated his remarkable generalization that the basic coal tar colors (like fuchsin, methylene blue, and methyl green and violet) stain nuclei; whilst the acid ones (like orange-green) stain plasm, and the neutral ones (like rosaniline-picrate) stain special cell contents. Weigert, later, found that acid fuchsin was specially useful in the study of the nervous system, and Strasburger, the botanist, used the basic methyl-green to demonstrate those mitotic figures which are of such importance in embryological work, and have afforded a basis for the wide generalizations of the biologist Weismann. Nor need I pursue the matter much further than to state that in 1882 Koch, who had previously devised the method of cultivation of bacteria, first stained with methylene blue and thus discovered the bacillus tuberculosis, the consequences and far-reaching results of which discovery are well known to all of you. That I have said so much on this point is to strengthen my contention that the true basis of modern medicine is essentially scientific. As an admirable instance of the kind of debt that modern medicine owes to bacteriology, of its power and promise, as also of the extreme difficulty and complexity of the subject in its recent developments, I cannot do better than to advise the re-perusal of Dr. Horton-Smith's Goulstonian Lectures on Typhoid Fever.

In surgery the discovery of the Roentgen rays has been of priceless benefit, and the Cheltenham Hospital was, I believe, among the first of provincial hospitals to make use of them, but most certainly Roentgen was thinking of nothing less than of surgery when in the modest Physical Institute of Würzburg he undertook his epoch-making research on the cathodic rays of Sir William Crookes. I have been to that modest but celebrated laboratory at Würzburg, and heard there the true story of the discovery, which I must not here stop to relate, though I may remark that I have never seen it correctly reported in English.

I spoke of the antitoxins as among the most valued resources of remedial art, and it is to strictly scientific investigators, to such men as Loeffler and Roux, Behring and Kitasato, Haffkine and Yersin, that we owe these great discoveries.

Soon, I believe, we shall possess antitoxins for most of the febrile and infective diseases, as undoubtedly effective as is that one now so successfully employed against diphtheria. Personally, I place much faith in the antityphoid inoculations of Professor Wright, of Netley, and in the antitetanus serum; and I feel sure that many more equally effective and similar means will soon be in our hands against other diseases. But it is not the practical physician and surgeon who will discover them, but the intellectual devotees of pure science, steadily pursuing, through good and evil report, their self-appointed task of universal beneficence.

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In thinking of the standpoint of to-day, I next recall the splendid work—purely scientific again—of the French and Italian investigators of malaria, of Laveran in 1880, and more recently of Marchiafava and Celli, Bignami and Grassi, but more especially of Golgi, who first proved that the feverish attacks coincided with the sporulation of the malarial amebæ. To which I am pleased to add, that it is, as you know, the President of our Tropical Diseases Section, Major Ronald Ross, who, following the promptings and surmises of Dr. Patrick Manson, has discovered nearly the whole life-cycle of the protozoon, and not only that, but has identified the true delinquent and disseminator of malaria with the mosquito Anopheles, a fact subsequently demonstrated by experiment on a human subject by the celebrated Italian biologist, Grassi; and still more recently by the experiment at Ostia in the Roman Campagna, where Drs. Low and Sambon and three others living by night for four months in their mosquito-proof hut, retained their health; whilst Messrs. T. P. Manson and George Warren (courageous sufferers for science), bitten in London by infected mosquitoes from the Sancto Spirito Hospital in Rome, developed soon afterwards every symptom of malarial fever. It seems that the hemamebidæ of malaria pass the whole of their life-cycle between animals and mosquitoes, and Dr. McCallum, of Baltimore, has further supplied the missing link of their sexual reproduction in the mosquito only. But the original hemameba can hardly have evolved itself in either. Whence, then, can it have originated? That is a question which I can not answer, though I may refer to the statement made by Captain L. Rogers, I.M.S., officiating Professor of Pathology in the Medical College of Calcutta, that where pure and filtered water is drunk there but little intermittent fever will be met with. At all events, it is quite clear that vertebrate animals are the intermediate hosts of the malarial germ, and that it has hitherto never yet been found in water or anywhere else, save in mosquitoes and in some vertebrated animals only. Elephantiasis, whose hematozoon, the filaria nocturna, was discovered in the blood by Surgeon-Major Timothy Lewis in 1872, is distributed by another mosquito, the Culex pipiens or ciliaris, as first proved by Dr. Manson. And even this does not exhaust the delinquencies of these dangerous insects, as there can be little doubt that they also disseminate yellow fever; witness the experience of the American army surgeons in Cuba, where that scientific martyr, Dr. Jesse W. Lazear, though isolated from yellow fever cases, yet died of it seven days after submitting to the puncture of an infected mosquito, and Dr. James Carroll, under similar conditions, narrowly escaped with his life. This particular mosquito has recently been recognized by the United States surgeons as the Culex fasciatus, and it is probable that the transmission of yellow fever is due to it alone. The study of tropical diseases has, in fact, now become a refined department of biological investigation. Smith and Kilborne have shown the part played by ticks in disseminating the cattle fever of Texas, and ticks also are said to be responsible for the miana disease of North Persia, and for a dysenteric fever of the Zambesi. Some forms of dysentery, as first suggested by Lösch in Russia in 1875, are probably originated by an ameba. In this town of Cheltenham old cases of malarial fever are often met with in returned officers and civilians, and I have yet to see the case that will resist six subcutaneous injections of 3 grains each of the acid hydrobromate of quinin.

. . . .

MORE UNIVERSITIES AND RESEARCH INSTITUTIONS NEEDED.

I think I have said enough to prove that the progress of pure science means medical progress also, and that it is to the men of pure science that we must still look to hold aloft for us the torch of progress. I can only hope that in the great advances still to be made Great Britain and Ireland may play their worthy part; but I confess I have my misgivings unless some improvements are made in our educational arrangements. As the result of several recent Augusts spent in many of the Continental capitals, I have been struck with the thoroughness and scientific spirit everywhere there manifested; being very different, I regret to add, from the antiscientific spirit which characterizes most of the wealthier and more cultivated classes in this country. This antiscientific spirit is only eradicable by the better education of the young. To what other cause can we ascribe the fact that although the aniline dyes were discovered in 1858 by an Englishman, Dr. W. H. Perkin, yet almost the whole of their manufacture is now carried on in Germany. One company, the Badische Anilin and Soda Fabrik, employs 146 scientific chemists, 75 civil engineers, and 6300 workmen in one alone of its three factories. I know not if any words of mine will reach the eyes of those who govern in this country, but if they do, I will implore them to give to our youth more facilities, similar to those enjoyed on the Continent and in America. I know that much has been done, and no fault is to be found with our primary education. The National Physical Laboratory and the Jenner Institute of Preventive Medicine, have been established, the former in principle, the latter in reality, thanks to the splendid munificence of Lord Iveagh. New colleges, universities, and technical schools have been started, and some 15 to 17 research scholars are appointed every year, one half of whom, I may remark, proceed at once to Germany to make their researches! What has been done, however, is as nothing to what ought to be done.

Depend upon it, there is as much scientific ability and aptitude for research in the country of Cavendish and Priestley, of Faraday and Kelvin, of Darwin and Huxley, of Jenner and Lister, of Rayleigh and Ramsay, as in any foreign nation; but here the chances and opportunities are much fewer, and many a great discoverer that might have been, one of whom it might have been written that—

> He broke his birth's invidious bar,
> And grasped the skirts of happy chance—

spends his untrained energies in futile efforts and vain regrets, and wholly wastes his commanding intellect for the want of instruction and opportunities easily accessible.

But the cost? It would be as nothing in proportion to the gain, and a Faraday, a Koch, or a Pasteur would be a cheap purchase at a million. Whereas France, Germany, and the United States educate at their universities approximately one student in every 1500 of the population, we in the United Kingdom are content with less than 1 in 2000. Whereas Germany spends £753,000 a year on its twenty-two universities and France £740,000 a year on its sixteen, we in Great Britain and Ireland are content with less than one-fifth of that amount, namely, £135,339 among seven of our thirteen. Although the Leland Stanford University of California has received no less than nine millions sterling from private munificence, and many others of the 480 American universities and colleges have likewise received huge sums—I may specify the Chicago University £2,000,000, the Johns Hopkins University £1,400,000, and the Cornell University over £1,000,000—no such general largesse is, I fear, to be expected from our British millionaires. The help must come from the government, supplemented by local contributions, or it may not come at all. Yet the matter is one of life or death for the country, for more and more every year the victory in every department, and the predominance in arts and trades, will pass to the possessors of the latest knowledge, the deepest science, and the most perfect and most economical processes. I can not but believe that this great need will soon be remedied, and that at the cost of a few battleships real universities of teaching and research, like the new University of Birmingham, will be established in every large town, and technical and research institutions—there are twenty-five of these in Germany and forty-three in America—in most of the smaller ones. At present we are feeling keenly the competition of America, a competition that is not likely to diminish, for it possesses over 100 schools of chemistry, and has 10,000 students of engineering. This competition that we can only hope to resist by imitating the foresight, generosity, and enthusiasm for science by the American Governments and of the American men of wealth.

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THE MORBID ANATOMY OF PROGRESSIVE MUSCULAR DYSTROPHY.

The pathology of the group of diseases comprehended in the designation progressive muscular dystrophy and including so-called idiopathic, hereditary, juvenile or scapulo-humeral, infantile or facio-scapulo-humeral muscular atrophy and pseudohypertrophic muscular paralysis is yet surrounded in dense obscurity. For a time confusion with progressive muscular atrophy of spinal origin existed clinically, but postmortem examinations failed to disclose the characteristic lesion of this disease. Such anatomic abnormalities as have been found were not uniform or distinctive and the most probable explanation is that the disease represents some defect in development. A case somewhat confirmatory of this view has recently been reported by Dr. Jenö Kollarits.[1] The patient was a boy, 10 years old, presenting the pseudohypertrophic type of progressive muscular dystrophy, the exact time of the beginning of which could not be determined. He had been totally helpless and unable to walk for more than two years, and contractures were marked. Postmortem examination disclosed characteristic fatty degeneration of portions of muscle, with atrophy of some and hypertrophy of other fibers. In the nervous system there were found dilatation of the central canal, diminution in the number of fibers in Lissauer's zone, as well as in the gray matter surrounding the central canal, in the anterior and posterior gray commissures and in Clarke's columns from the cervical to the upper lumbar portion of the spinal cord. This absence of fibers was less marked in the anterior horns, whose ganglion-cells were structurally intact, although reduced in size. It will thus be seen that there is no relation between the muscular and the nervous lesions —unless we except the diminutiveness of the ganglion-cells in the anterior horns—so that it may not unreasonably be concluded that both are the results of a common defect in development. It may possibly be, however, that there is some etiologic connection between the small size of the ganglion-cells and the developmental deficiency in the muscles.

In this connection the report of a fatal case of progressive muscular dystrophy of pseudohypertrophic type by B. Sachs and Harlow Brooks[2] is not without interest. The patient was a man, 25 years old, in whom symptoms had been noticed for about fifteen years and two of whose brothers suffered from similar disease. Death resulted from pneumonia, and on postmortem examination there were found extensive atrophy involving nearly all of the skeletal muscles, to which it was confined, the muscular tissue being replaced by diffuse areolar connective tissue and adipose tissue; slight general perivascular connective-tissue hyperplasia; moderate interstitial myocarditis; extensive degenerative changes in a few of the cells of the posterior-root ganglia; and rare and irregular types of cytoplasmic alterations without morphological change in the ganglion-cells of the spinal cord.

Great significance is attached to the changes found in the posterior-root ganglia, although it is admitted that they do not necessarily bear a direct relation to the muscular atrophy, the number of cells affected being disproportionately small as compared with the extent of the atrophy. It is thought probable, on the other hand, that secondary alteration in the ganglia might result from primary disease of the muscles. Occasional, isolated degenerated fibers were found in the posterior columns, but these were thought to be probably ascending central branches of the degenerated spinal ganglion-cells. The cytoplasmic degeneration of the ganglion-cells of the spinal cord is attributed to postmortem change or to terminal infection. The ganglion-cell changes are not considered sufficient or of such a character as would be expected if the process were a secondary one following the long-standing muscular atrophy. Chromophilic changes in certain of the cells of dorsal segments are referred to nutritive disturbances, particularly affecting this portion of the cord following extensive and rapidly progressing curvature of the related portion of the spinal column.

The opinion is expressed in conclusion that the disease may be dependent upon some defect in embryonal structure that prevents satisfactory development of the muscular system. The disorder is thought to represent a primary affection of the muscular fibers, the fatty degeneration of which is secondary to the hypertrophy and atrophy of the muscular tissue.

THE SO-CALLED CARDIAC NEUROSES.

"Cardiac neuroses," so-called, have been attributed as a general rule to disturbances in the normal workings of the nervous apparatus of the heart. In this, as in many other instances, the effort at classification has probably gone beyond our actual knowledge of the nature of the processes in question, because it is not yet clear how much of cardiac function depends on the nervous mechanisms, and how much on the muscle cells of the heart. Just at present physiologists are inclined to lay especial stress on the automatism of the muscle cells and to refuse to attach much if any importance to the nervous influences.

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[1] Deutsches Archiv f. Klin. Medicin, 70, B., 1 u. 2. H., p. 157.

[2] American Journal of the Medical Sciences, July, 1901, p. 54.

In a recent paper by L. F. Barker[1] this subject is reviewed from the anatomic, physiologic, and pathologic points of view. It is pointed out that the heart has no nerves at all when it begins to beat in the embryo, and that the vagus fibers grow out to the heart, while the sympathetic neurons, at first entirely distinct from the heart, gradually enter its walls and locate there permanently. Furthermore, that modern physiologists by experimental work have shown that the normal rhythm of the heart is inherent in the muscle cells of the adult heart and not due to the rhythmical discharge of nervous impulses along nerve fibers. The automatic rhythmic activity of the heart is favored by the Na -ions in the blood, associated in a certain proportion of Ca -ions. The muscle cells of the heart have three distinct properties, namely, contractility, conductivity, and the power to initiate primary automatic stimuli at regular intervals. These properties are influenced in various ways, especially by nervous influences. It has been proposed by Engelmann to call the nerve fibers that affect the force and extent of the contractions, inotropic; those that affect conductivity, dromotropic; and those that modify the frequency of primary automatic stimuli, chronotropic. These designations need not be restricted to nervous influences alone, but may be well applied to any and all influences operating in the manner indicated.

Barker then discusses the abnormalities of cardiac rhythm—the tachycardias, bradycardias, embryocardias, pulsus intermittens, etc., and it is shown that the analysis of irregular heart action promises valuable results when based on modern anatomic, physiologic, and pharmacologic research. The most prominent feature of the present analysis is the importance assumed by the cardiac muscle itself, and Barker suggests that until the dynamics of the processes concerned are better understood the term "cardiac neuroses" should be left in the background, and the arhythmic states grouped rather under a more general term, such as "disturbances of cardiac motility."

Just at present we know little concerning the functions of the nervous mechanisms of the heart, be it under normal or under pathologic conditions. Indeed, it is not at all unlikely that many morbid conditions, now called "nervous," will be found later to depend on factors better and more correctly described by other terms.

BIRTH-RATE IN NEW ENGLAND.

A high Canadian official, the Hon. David Mills, Minister of Justice for the Dominion, has indulged in some remarks on the degeneracy of the New Englanders. The head and front of his accusation is that they do not raise large families, and he thinks the United States has a serious problem before it in this decrease, or rather lessened increase, of its population. The amount of misinformation, or, to put it more plainly, gross ignorance, at the bottom of his jeremiad is remarkable. It is true that there has been a decreasing birth-rate in New England, but this is not so wonderful or alarming when one considers the facts. There are plenty of towns in that section where the birth-rate is low simply because there are few of the population of the productive age; they are kept up largely by the return of old people to their former homes, by summer residents from the cities who do not count in their statistics, and to a certain extent by immigrants from the outside. The young people very largely leave home before marriage, some at the time of marriage. It is not an ideal state of affairs, but it is better than it looks in official vital statistics. The New England blood has permeated the whole country and still in its present condition that section sends out a quota of energetic vitality that makes its mark in every way.

As regards other portions of the country which this critic seems also to include in his condemnation, it should be remarked that birth-returns are almost everywhere defective; in only a few of the older sections can they be relied on as approximately accurate, and the errors are altogether in omissions. The problem of school accommodation for the rising generation is a perpetual one in many of our cities, and yet the birth-rate is practically non-existent according to the returns. There is also in nearly every prosperous community a tendency to a decreasing birth-rate and this seems to be enhanced by some conditions of modern civilization.

Take the United States as a whole and it would probably be found, were the true figures available, that it is not much worse off than most other countries and better off than some. Among these last we have to reckon Canada, and more particularly that portion of it that claims the Hon. David Mills,[1] namely, Ontario. According to the registrar-general's report last year the birth-rate of that province was lower than that of any state in the Union, being only 19.9 per 1000. It seems, therefore, a little gratuitous, to say the least, for this Canadian cabinet minister to send out such utterances. If they were justified by the facts the case would be bettered, but they would seem to show a prejudice causing him to ignore his own vulnerable glass house. As it is, we have to consider them the result of either prejudice or inexcusable ignorance.

KOCH'S ADDRESS AND THE NEWSPAPERS.

The reception which Professor Koch's address before the British Tuberculosis Congress has received by the lay press is amusing. Glaring scare-heads have called attention to the remarkable and wonderful things that will now happen; to the fact that tuberculosis has been discovered to be a curable disease; that it is not transmitted from animals, and heaven knows what else. As we published the address in full last week, our readers have had the opportunity of reading for themselves just what Koch did say, and what there was in the paper that should cause all this furor.

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[1] Chicago Medical Recorder, May, 1901.

[1] See THE JOURNAL A. M. A., xxxvi, p. 819.

Briefly, he announced that tuberculosis is preventable; that special measures are needed for the prevention of different diseases, illustrating this by showing how plague, cholera, hydrophobia and leprosy must be met, each by different methods, and that the prevention of tuberculosis must also be opposed by special measures peculiar to itself. All this has been announced before, time and again, and had been accepted by the very large proportion of the medical profession. The measures he recommends for prevention and cure in the incipient stages were only such as had been recommended by others and by himself before, not one being new. The only thing that was startling as coming from Koch was the announcement of his belief that bovine and human tuberculosis are not intercommunicable diseases. This, too, is not a new idea, for while the opposite has been generally accepted as true, many have held to the views as now announced by Koch.

The only important announcement in Koch's paper is that in which he gives the result of his experiments in the investigation regarding the transmission of human tuberculosis to animals. But this is important only as it apparently confirms the view held by some for a long time, but which has not been accepted by the many. He failed, in each of the nineteen experiments he made, to convey human tuberculosis to bovines, but succeeded every time in conveying bovine tuberculosis to bovines. Similar experiments have been reported before by others with similar results. He made no experiments in the transmission of bovine tuberculosis to human beings, neither has anyone else. He advances no positive proof that bovine tuberculosis is not transmissible to man, but bases his opinion that it is not transmissible on theory and inference. Dr. Koch proves by positive facts one thing, viz., that the human form of the disease is not communicable to bovine animals. Thus far do his positive results go; the rest is negative. There has been no reason for all the wild talk on the subject. Had the experiments been made and the paper written by any one but Robert Koch, there would have been hardly a ripple even in the hall in which it was read.

VACCINATION IN PORTO RICO.

One of the first things that American imperialism forced upon the people of Porto Rico was the loathsome disease, vaccinia! The result has been that the privilege of having smallpox, wholesale and retail, *ad libitum*, as under Spanish rule, has been almost destroyed. During the last six months of 1899 there was but one death from this disease, against 272 in the first six months, and since then the regular epidemic has been a thing of the past; the resource of six or seven hundred annual deaths that used to be such an appreciable factor in reducing the surplus population has been entirely lost. The new generation of Porto Ricans will have to grow up unpitted! One would think that such brutal oppression as this of a subjugated people would have been made the most of, and that the antivaccinationists and other "aunties" would have stormed the White House and the Capitol with their protests. But no, they never even mention it, and the Porto Ricans themselves are so unappreciative of their wrongs that it has never been even suggested by them as a grievance. As a lay paper says, "Though to ordinary intellects such a proof of the efficiency of vaccination to prevent smallpox will be convincing, there is no doubt that the Spartan band of antivaccinationists will continue to flourish. For, how can the actual experience of a million or so weigh in the balance against the theories and the dicta of those who are bound to differ from the rest of the world and to expose themselves, their children and their neighbors to contagion in the cause of independence and enlightenment!"

AUTHORITY IN MEDICINE.

It is fortunate that in medicine we are not wedded to precedent as in law, and that authority is only presumption. Every dictum, no matter from how high a source, must be tested by the rigid rules of evidence, rules much more exacting in medicine than in law, though not laid down with such precision. When, therefore, Professor Koch expresses an opinion that is opposed to the generally accepted views, no matter how high his authority, its correctness must be shown by experimental methods or adequate clinical observations before it can form a part of the admitted medical beliefs. The evidence that has been convincing to him must be tested by others and, it is safe to say, be supplemented by further facts before it is fully satisfactory to many of those tuberculosis specialists that have, so to speak, staked their reputation upon the truth of opposing views. We can expect, therefore, a lively controversy, a thorough discussion of the facts thus far available, and a very general search for new ones that will bear upon one or the other side of the question. His utterances will, beyond doubt, call out also many who, like him, have experienced doubts, but have been hesitant in their expression; he will not stand alone on his side of the debate. They will also stimulate active research, experimental so far as is possible, both private and by public boards of health, etc., and all this will be a distinct gain to science and ultimately also of practical benefit in guiding public policy on this important question. What we know or suspect will be proven or disproven; we shall stand at last, whatever the decision may be, on firmer ground. This is the utility of authority in medicine; it is not slavishly accepted, but is a stimulant to thought and work and thus a direct factor in scientific progress. Whether Professor Koch is right or wrong, his open statement will, it is hoped, help to put an end to dogmatic assertion which has too much prevailed in the discussion of tuberculosis; we shall have less words and more work on the subject, and therefore more reliable results. There are many who believe in the transmissibility of bovine tuberculosis to man who have yet felt a want of reasons for the faith that is in them. Medical science is not safely based on *a priori* deductions, however expedient they may seem to be, and we certainly lack a sufficient body of evidence on this particular point. Let us hope that it will be soon supplied.

RETENTION OF DIPHTHERIA BACILLI IN THE VENTRICLES OF THE LARYNX.

It has now been firmly established, and it is generally recognized, that diphtheria bacilli may be present in the throat in the absence of symptoms of diphtheria, lodgment, but not infection, taking place; and also that the bacilli may be found in the throat long after recovery from the disease has occurred. A further possible site and source of infection that is likely to escape detection, unless specifically looked for, is pointed out by Dr. W. J. Horne,[1] namely, the ventricles of the larynx. This observer relates the case of a child, nine months old, who presented symptoms of laryngeal obstruction requiring tracheotomy, but no positive evidence of dipththeria, as an instance of which it was nevertheless regarded. Treatment with antitoxin was instituted, but death ensued. On postmortem examination, the pharynx and the larynx were found free from membrane, and cultures from these parts failed to disclose the presence of diphtheria bacilli, which were found, however, in cultures made from the interior of the ventricles of the larynx. Reference is made to a second and precisely similar case that subsequently came under observation. It is pointed out, further, that the fatal cases of so-called membranous laryngitis that have been regarded as non-diphtheric because diphtheria bacilli were not found, from failure to examine the ventricles of the larynx, may really have been of this nature. The same observer had previously called attention to the frequency with which he had detected tubercle bacilli in the recesses of the ventricles of the larynx in subjects dead of tuberculosis when this organ presented entirely normal naked-eye appearances.

CLINICAL EXAMINATION OF BLISTER-FLUID.

The last decade has witnessed a great advance in our knowledge of changes in the blood. As is the rule, while we have become acquainted with a large number of new facts, we are without explanation for many of them. Enough, however, it would seem, has been learned to show that the blood-making organs react in peculiar and special ways to various forms of infection, so that not a little diagnostic information is to be gained from systematic examination of the blood. Thus, it has been shown that an increase in the number of leucocytes occurs not only physiologically—in the sequence of digestion, in the newborn, during pregnancy, after parturition and after violent exercise—but also as a pathologic manifestation, as in association with leucemia, in the train of hemorrhage and in conjunction with various infectious and toxic processes; while it is as characteristically absent from some others of the last named. Under some conditions the increase involves especially certain of the white cells, as in the eosinophilia attending the presence of intestinal parasites and also asthma. Two French observers, Roger and Josué, have gone a step further and have shown that important diagnostic information can be gained by examination of the fluid contents of blisters induced artificially. In health they found as many as 25 per cent. of polymorphonuclear eosinophile cells, while in the presence of various infectious processes the number of these cells, if any were present, was much smaller. These changes, it is thought, are dependent upon the influence exerted by the toxins upon the bone-marrow, in consequence of which the latter is stimulated to the production of an excess of polymorphonuclear neutrophile cells, to the exclusion of the polymorphonuclear eosinophile cells. The application of a blister, however, stimulates the production of eosinophile cells and the result of the examination is to disclose the ability of the bone-marrow to produce them. In ordinary cases of pulmonary tuberculosis especially, though not exclusively, the polymorphonuclear neutrophile cells preponderate, while the eosinophile cells are present in small number, if at all. The cells, besides, appear swollen and distended. There seems to be good reason, therefore, for believing that much valuable information is to be gained from a careful study of the blood in its varying phases and under varying conditions, and the subject is one deserving of further investigation.

IMPOSTORS AMONG ANIMALS.

In an article with this title in the *Century Magazine,* Professor Wheeler of the University of Texas quotes from Henry Drummond to the effect that before the masterpieces of deception among animals "the most ingenious of human impositions are vulgar and transparent." The article deals with deceptive disguises, which affect the form, attitude, and especially the color of animals. Every student of animal life is familiar with the close resemblance of many birds and other animals to the soil and vegetation. Certain chameleons, tree frogs, cuttle-fishes and shrimps are actually able to so change their appearances as to harmonize in color with their surroundings. Insects and spiders have reached the greatest degree of perfection in disguises of this kind, which subserves both defensive and offensive purposes. Numerous examples are cited of insects which copy in their appearances almost any of the exposed parts of the plants among which they exist. There are also insects and spiders that imitate the excreta of other animals, as for instance, the bird-dropping spider described by Forbes; and Drummond describes a harmless insect in similar garb which is thus shielded from its natural enemies. While some animals are protected by these resemblances to their surroundings, others present loud colors and a fearless behavior coupled with poisonous or painful stings or with pungent nauseating secretions which furnish their possessors a certain degree of protection from attack. These so-called warning characters generally consist of alternating bands of contrasting colors. The wasps, hornets, poisonous king snakes, and the skunk are examples of this category. Animals of this group seem to be copied by animals that possess the warning colors but no disagreeable traits. The mimics occupy the same geographic areas as their models and associate with the latter, being thus protected from their enemies, who confound them with their disreputable company. Butterflies have furnished most material for the study of mimicry. In the Northern states harmless two-winged flies mimic the warning colors of wasps and bees. The comparative small number of mimetic animals is explained on the ground that any considerable increase among them is sure to result in detection of the fraud and in destruction of the species by its natural enemies. Then, there are a number of animal impostors which, though quite inoffensive, assume colors and attitudes calculated to terrify. Chameleons may puff, mammals and birds may cause their hair and feathers to become erect, and lizards may spread out special frills, all without being able to inflict any real injury. Of course, it is evident that animals are not impostors in the ordinary sense of the word, because they are not conscious of their hypocrisy. While they seem to pose for a purpose and while "their whole life is a sustained lie," at least in the sense that they seem to be what they are not, yet their often highly successful efforts at deception can not be attributed to teleologic motives, but are the result of natural chemical and physical processes, which are not clearly understood.

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[1] Jour. of Laryngology, Rhinology and Otology, June, 1901, p. 275.

ECONOMIC VALUATION OF VISION.

That the mathematical valuation of vision and the estimation of its relation to the earning powers is possible is not as yet known to the courts of law and the business world. Indeed, there is but little medical literature upon the subject. Damage to the eyes and sight is a common cause of complaint in suits for injury, and where pecuniary compensation is allowed the amount is often improperly estimated, and is largely influenced by empirical ideas, as in the case of a recent decision of a Texas court[1] allowing $7,000 for the loss of an eye. Cases constantly occur where less amounts are allowed. The accident insurance companies and the United States Bureau of Pensions allow comparatively small amounts. That a loss of vision has a direct detrimental effect upon the earning powers[2], where impairment of sight is considered total disability, is certainly conceded. H. V. Würdemann, of Milwaukee, and H. Magnus, of Breslau, in a recent article,[3] show that the earning ability for most trades and professions is practically synonymous with the visual earning ability, and that damage to vision invariably entails a loss of earning power and of wages. The factors entering into economic vision are the functional power, the technical knowledge, and the ability to compete in the labor market. The technical knowledge depends upon the other factors and the formula may be simplified by its elimination. These factors are compound. Vision is composed of the sub-factors of the central acuity, the visual field and the muscular functions, each of which have their relative value. Other sub-factors are likewise included in estimation of the preceding. The ability to compete depends upon the bodily health in large part and is given appropriate valuation in the formula. Damage to any or all of these factors produces a definite effect upon the whole valuation. We may exactly estimate the value of each of these factors by the ordinary means of scientific examination, that is, the acuity by the test letters, the visual field by the perimeter, etc. Thus the percentage of loss from injury may be readily figured. Although such estimation involves use of the higher mathematics, by the use of tables and diagrams prepared by the expert mathematician the computation is brought down to the mathematical ability of the average physician or lawyer, a simple multiplication example being used for the solution of the individual case. The authors show that the loss of one eye, for the worker whose trade has higher visual demands, entails a loss of 30 per cent. of his earning ability for the first year after the accident and 20 per cent. afterwards. For the lower class of trades the loss is 27 and 18 per cent. Other factors of visual loss are fully considered. The prospective loss in wage earning in the individual case may be readily calculated. They figure with the compensation the individual has been getting and his prospective future earnings, which depend upon his age, business and state of his visual functions. Similar propositions are involved in these calculations as are so successfully used by such immense interests as the modern insurance companies in their estimations of probabilities, the results being not the exact amount that a man will earn, but what he might reasonably expect. This probable pecuniary or economic damage should be the basis for settlement of claims for damage, of course modified by the legal circumstances involved in the individual case.

Medical News.

ILLINOIS.

Dr. Sanford E. Winget, Kewanee, has been appointed director of the Joplin, Mo., Medical and Surgical Institute.

Dr. Omar A. Kell has been appointed a member of the medical staff of the Illinois Eastern Hospital for the Insane, Kankakee.

Dr. A. B. Middleton, Pontiac, has been appointed physician to the reformatory to succeed Dr. James A. Marshall. Dr. Middleton is at present in Europe.

Chicago.

Dr. and Mrs. Plumer M. Woodworth and Mrs. Nicholas Senn, who have been traveling in Europe, sailed for New York, August 1.

Dr. John D. Marshall, examining and supervising dental surgeon, U. S. army, has been transferred to the Presidio, San Francisco, California, and has gone to his new post of duty.

Betiero Registered.—After investigation by the State Board of Health it has been found that the physician who recently applied for permission to bury a hypnotic subject, is a regularly licensed practitioner.

Antitoxin in Zion.—After the recent death of a child from diphtheria in Dowie's Zion, Chief Medical Inspector Spalding of the Health Department succeeded in inducing the mother to allow antitoxin instead of prayer to be employed as a prophylactic in the case of her other children.

Former Deputy Coroner Weckler pleaded guilty to malfeasance in office and was fined $200 and costs, July 30. The charge was that a fraudulent inquest had been held in the case of Marie A. Defenbach. Weckler in pleading guilty said that his fault was due to negligence, and that he had no part in the conspiracy.

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[1] Court of Civil Appeals, Texas: De la Vergne Refrigerating Co. vs. Stahl.

[2] Vide decision Lillie vs. Brotherhood of Railway Trainmen, abstract in Journal A. M. A., July 20, 1901, et al.

[3] Annals of Ophthalmology, April, 1901. See p. 350, this issue.

Co-Education and Rush Medical College.—The newspapers have announced with great headlines that Rush Medical College will hereafter admit women. This, however, is true only as it applies to the first two years, which courses are taken at the University of Chicago. It being a co-educational institution all its classes must be open to women; this is as far as women have been admitted to Rush Medical College. What will be done in regard to their admission in the junior and senior years has not yet been decided. Through the announcement by the Rush Medical College that a change had been made in the plan of quarterly examinations. the erroneous idea gained circulation that the quarterly system had been abandoned. The officials at the college say that the quarterly system has proved one of the best divisions of the scholastic year that the college has ever adopted. They pronounce it a great convenience to many students and highly advantageous to the faculty and the institution. The change in examinations was deemed necessary and provides a final examination before a student is graduated.

Last Week's Increased Mortality,—There were 617 deaths reported to the Health Department during the week ended July 27, an increase of 190 as compared with the preceding week and of 175 as compared with the corresponding week of last year, making an annual death-rate per 1000 of 18.29 as compared with 13.42 in 1900. A great part of this increased mortality is due to the excess of deaths from the acute intestinal diseases, there being 175 deaths recorded from these causes as against 80 the preceding week. Of the total deaths during the week 199 occurred among those under one year of age, 77 between one and five years and 98 over sixty—a total of 374 at these age divisions, or 60 per cent. of the total mortality. This is probably the culmination of the disastrous effects of the prolonged heated term. to which the excess of deaths at the extremes of life is clearly ascribable, as well as the excess of deaths from the acute intestinal diseases. Contrary to the usual experience this latter excess bears no relation to the character of the water supply. Since July 5 the water from all sources has averaged 96 per cent. "good" or "usable," and on only three occasions during this period has the supply from any station been "suspicious" or "bad."

INDIANA.

Licenses to practice were granted to 75 of the 90 applicants who appeared for examination before the State Board of Medical Registration in July.

Dr. Frederick R. Charlton, who served during the Spanish-American war as surgeon of the 158th Indiana Infantry, U. S. V., has been appointed a member of the Board of Pension Examining Surgeons for Indianapolis.

Smallpox in Indiana.—The State Board of Health has ordered that, while smallpox exists in Indiana, and the time of its disappearance will be officially announced by the State Board of Health, it shall be the duty of all physicians to immediately report to the health officer having jurisdiction, all cases of eruptive disease which may remotely resemble smallpox and which may come under their care. It shall then be the duty of the health officer to promptly quarantine the case or cases of eruptive disease and maintain the quarantine until fourteen days have elapsed from the time of the outbreak, or until the eruptive disease is positively determined not to be smallpox.

KANSAS.

Dr. Arthur E. Hertzler has returned to Halstead after a two years' post-graduate course in Germany.

Registration fees amounting to $1069 have been turned over to the state by the secretary of the State Medical Board. These are the first-fruits of the new medical law.

The State Board of Medical Registration has set apart August 13 for examination of applicants for practice and for inspection of diplomas of practitioners of Wichita and vicinity.

The Physio-Medical Institute of Kansas City is not considered a "standard" institution by the State Board of Medical Registration and Examination, and the certificates of the institute will not be accepted as proof of practice. The board is upheld in its action by a decision from the attorney-general.

MASSACHUSETTS.

Dr. George L. Richards, Fall River, is in Europe. He will return in October.

Dr. and Mrs. Francis D. Donoghue, Boston, have recently returned from their trip to Europe.

The City Hospital, Worcester, is to have an isolation ward on the hospital grounds, to cost about $75,000. The ward as planned will be a two-story brick building, so divided that communicable diseases may be separated from one another.

MINNESOTA.

Morrison County has organized a board of health with Dr. Norman W. Chance, Little Falls, as health officer.

Asbury Hospital, Minneapolis, has received a gift of $1000 from Mrs. Abigail Knight. It is announced that the walls of the new building will be erected and the building enclosed before winter.

A Smallpox Conference is to be held at Duluth, August 13, which will be attended by many health officers, physicians, county commissioners, railroad men and lumbermen, representing the northern portions of Minnesota, Wisconsin and Michigan.

MISSOURI.

Dr. Eugene A. Scharff, city dispensary physician of St. Louis, has resigned and will devote himself to private practice.

The Warrensburg quarantine, on account of smallpox, which has been in force for forty days, was lifted July 24, and the guards discharged.

On account of smallpox the Nodaway County Board of Health has prohibited the holding of all public gatherings, such as picnics, reunions, etc., until further orders.

Free Medical Course.—The University of Missouri, Columbia, has increased its medical course to four years, and tuition has been made free in this department. The General Assembly has appropriated $40,000 for a new medical building and the Parker Memorial Hospital will be ready to receive patients this fall.

NEW YORK.

The Oneonta Hospital Society, which was founded in 1894 by Dr. Ozias W. Peck, was dissolved July 18 and has been succeeded by the Aurelia Osborne Fox Memorial Hospital Society.

Biennial Examinations.—The State Board of Regents has decided to divide the final state examinations for license to practice medicine and surgery so that students may take their examinations in anatomy, physiology and chemistry at the close of the second year.

A New Bellevue.—John W. Keller, commissioner of public charities, fully endorses the action of the State Board of Charities which has condemned Bellevue Hospital as unfit for hospital purposes and has called on the municipal authorities to provide more suitable quarters. Commissioner Keller says that if he has his way, Bellevue Hospital will be razed and a new building will be erected on the present site, or further uptown, equipped with every modern appliance at a cost of $2,000,000.

The New Antitoxin Laboratory, Albany, the establishment of which was provided for by the last legislature, has been started under the charge of Dr. H. D. Pease, of Sheffield Scientific School. Diphtheria, anti-tetanus, anti-typhoid and other sera will be prepared at the laboratory and distributed free of cost to state institutions and local health boards. It is intended to supply to all the health officers throughout the state the same facilities for investigation, diagnosis and treatment of infectious diseases as are now supplied by the City of New York.

OHIO.

Dr. J. W. Jones, Sharon. Butler County, has been appointed assistant physician at the Toledo State Hospital.

Dr. Ralph Holmes, Columbus, has been appointed assistant physician at the Columbus State Hospital for the Insane, vice Dr. Robert C. Tarbell, resigned.

OKLAHOMA.

Dr. Elmer E. Cowdrick, Enid, formerly of Toledo, Ohio, has been made Territorial Superintendent of Health, vice Dr. L. Haynes Buxton, Oklahoma City, term expired.

The Territorial Board of Medical Examiners, consisting of Drs. Elmer E. Cowdrick, Enid, chairman, Dr. Grant Cullimore, Oklahoma City. secretary, and Joseph A. Overstreet, Kingfisher, treasurer, met for organization at Enid, July 17.

OREGON.

Smallpox is said to be epidemic in Portland. Since May 1 twenty-five new cases have been reported.

The State Board of Medical Examiners examined 20 applicants July 2 and 3, and on July 16 issued licenses to practice to 17 of them.

PENNSYLVANIA.

Drs. J. Purd Kerr and Christopher C. Hersman, of the staff of the South-Side Hospital, Pittsburg, have resigned.

The McKeesport Hospital has been seriously crippled by the cutting down of its appropriation from $37,500 to $14,000. As the hospital is already heavily burdened with debt, this reduction in its resources may necessitate the closure of its doors to all except pay patients.

Blockley Hospital.—The Department of Charities and Corrections, Philadelphia, have asked for bids for the erection of three new buildings for the Philadelphia Hospital, a children's hospital, to cost $35,000; a hospital for communicable skin diseases to cost $35,000 and a maternity to cost $10,000.

Commonwealth Control of Hospitals.—Representative Ford, of Pittsburg, claims that the establishment and absolute control of hospitals by the state would remove the greatest drain upon the resources of the state and render it unnecessary to cut down the appropriations at the end of every legislative session, as is necessary now.

RHODE ISLAND.

Smallpox.—The State Health Board has been aroused by the discovery of 18 new cases of smallpox in the Blackstone and Pawtuxet valleys.

Dr. Joseph N. Roy, Harrisville, has yielded to law and surrendered his certificate to practice after a fierce legal struggle extending over many months.

TEXAS.

The estate of the late Dr. Robert H. Chilton, Dallas, is valued at $75,000.

Dr. John E. McClung, Corsicana, has been appointed health officer of Navarro County.

New Licensees.—The State Board of Medical Examiners has passed favorably on thirty-three candidates for license to practice medicine.

The State Medical Board held its meeting for organization at Austin, July 23, and elected Dr. J. T. Wilson, Sherman, president; Dr. Sam R. Burroughs, Buffalo, vice-president, and Dr. Matthew M. Smith, Austin, secretary and treasurer.

Galveston Medical College.—The following changes have occurred in the faculty of this college: Dr. Henry P. Cooke has resigned the deanship and the chair of pediatrics; Dr. William S. Carter, professor of pathology, will be lecturer on pediatrics; Dr. Allen J. Smith has been made dean; Dr. William Gammon has been promoted from demonstrator to associate in pathology; Dr. Louis E. Magnenat has been made demonstrator of pathology; Dr. M. Charlotte Schaefer has been made demonstrator of normal microscopy; Dr. Kenneth H. Aynesworth has been made demonstrator of anatomy and Dr. Thomas Flavin, emeritus demonstrator of anatomy.

VIRGINIA.

The Newport News Hospital Association has decided to begin the erection of the main building of the proposed hospital immediately.

Plans for the new hospital at Winchester, Va., have been adopted and construction will begin at an early day. Of the $15,000 required all but $1000 has been secured.

The dispensary building at the Norfolk navy yard has been completed at a cost of $10,000, and is a model of its kind. The lower floor is devoted to the surgeon's office, dispensary, examining and operating rooms, storeroom, and the apothecary and his family live in the second story.

Not Proven.—The Board of Directors of the Southwestern State Hospital, after careful investigation of the charges preferred by Dr. Zeb V. Sherrill against Dr. Robert J. Preston, superintendent of the hospital, has found that the evidence does not sustain the charges, and has so informed the governor.

WASHINGTON.

Dr. William L. Ludlow, Seattle, has returned from a six-months' course of study in Europe.

The Board of Health of Seattle has appointed Dr. Frank M. Carroll, health officer and city physician, and Dr. William L. Ludlow assistant health officer.

State Law Upheld.—In the case of the state against Dr. W. D. Meyers, charged with practicing medicine without a license in Spokane County, the defendant was found guilty and fined $50 and costs.

The State Board of Medical Examiners met in Seattle the first week in July and elected the following officers: Dr. William Grant Tucker, Port Townsend, president; Dr. Charles E. Grove, Spokane, vice-president, and Dr. John P. Turney, Davenport, secretary.

GENERAL.

Dr. Milo B. Ward, Kansas City, Kans., died July 28. A more extended notice will be given next week.

Bubonic Plague.—Reports of the plague reach us from an apparently increasing area of the world. In South Africa it is not confined to Capetown alone, but has spread to Maitland, Simonstown and Port Elizabeth, while in Egypt it has broken out in Zagazig, Alexandria, Minieh, and sporadic cases at other towns; the Marine-Hospital Service reports 63 cases and 25 deaths at Zagazig alone, up to July 3. In China it is prevalent at different points, but most particularly in the seaport town and island of Amoy, where the estimated number of deaths from plague is 700 weekly in a population of 400,000. At Hong Kong it is at present decreasing. India is still firm in the grasp of the scourge, with weekly and local variations in decrease and increase, but with a steady annual increase. The *Lancet* correspondent gives the 1889 outbreak as consisting of 1336 seizures and 1223 deaths; in 1900 there were 7897 cases and 7373 deaths, whilst this year's list amounts to over 9000 cases and 8000 deaths already. The Marine-Hospital Service reports in all India 7600 cases and 5770 deaths from May 12 to June 8. Its presence in Brisbane and other points in Australia, and the quarantine against that infected port necessitated changes in the movements of the Duke and Duchess of Cornwall. Europe has had a few sporadic cases, notably in the port-cities of Glasgow and Marseilles, but its chief danger is by land from Constantinople, where it now exists. Roumania, Bulgaria and Greece have instituted a rigid quarantine against Turkey. In South America, 6 cases have appeared in Asuncion (Paraguay), and Rio Janeiro. Beyond the confines of the continents it has shown itself to a greater or less extent in the following islands: Philippines (112 cases and 91 deaths, from May 11 to June 15 in Manila), Mauritius, Hawaii and Japan.

Plague Reports.

The following are reports of recent autopsies made in San Francisco on those dead from the plague:

Miyo, Japanese female, died July 9, and an autopsy was made the same day. She was taken sick on June 30 along with two other Japanese girls in the same house. There was marked enlargement of the glands in the right inguinal region, reddening and edema on the overlying skin. There was slight enlargement on the left side. The axiliary and cervical glands were not palpable. The intestines were not injected; no fluid in the abdominal cavity. Spleen tore while being removed; was red brown, with here and there splotches on its surface. It was soft and enlarged to over twice its normal size. There was no fluid in the thoracic cavity. Right lung was adherent anteriorly about the apex and base. Pericardium contained 20 c.c. of clear yellowish fluid. Heart showed signs of an old pericarditis. It was about normal in size. The kidneys were somewhat enlarged. The right lung was in a condition of chronic interstitial pneumonia; left lung was normal. The liver was yellowish-red in color, with areas of dark purple. It was normal in size. Slides made at autopsy showed nothing distinctly. Some fluid flowed from a cut made in the right inguinal glands; these glands formed a mass as large as a hen's egg. They were injected and red and contained large areas of coagulation necrosis. No pus exuded upon section. Guinea-pigs inoculated with 1 c.c. of a bouillon culture obtained from the spleen of this girl died 48 hours after with a typical pest infection. The organisms were obtained from the subcutaneous tissue, spleen and heart blood.

Shina, Japanese female, aged 26, was taken sick June 30, died July 9, and an autopsy was made the same day. This girl was seen the day before her death by the writer in consultation through the courtesy of her attending physician. She was a well-nourished but very anemic girl. Temperature was 101.5, pulse 106. She had a distended abdomen, which was slightly tender on pressure. There was considerable diarrhea, and the dejections were involuntary. There was a blowing murmur heard over the apex of the heart during systole.

The glands in the inguino-femoral region on both sides were enlarged, the left side particularly so. The overlying skin was somewhat reddened and edematous, and exquisitely tender on pressure. The mass was not fluctuant. Dr. Ryfkogel, who was present, punctured the gland, and from the serum thus extracted smears were made which showed enormous numbers of bipolar bacilli, decolorizing by Gram's method of staining, and identical in size and form with the bacillus pestis. A blood specimen was taken from the ear lobe, but no bacilli were found microscopically in the smear. The blood count showed a leucocytosis of 27,600, of which the differential count of white cells was as follows: neutrophiles, 91 per cent.; lymphocytes, 6 per cent.; mononuclears, 3 per cent; no eosinophiles. Two basophiles were seen in the thousand counted. The blood gave an immediate characteristic agglutination reaction with a bouillon culture (48 hours) of the bacillus pestis. A guinea-pig was inoculated with the gland juice. This girl died on the morning of July 9, and an autopsy was made in the afternoon of the same day. The posterior and anterior cervical glands, as well as the axillary and popliteal, were palpable. In the right inguino-femoral region there was a firm, somewhat movable mass 5 cm. in diameter, the overlying skin was not inflamed. In the left inguino-femoral region was a large mass. The periglandular edema was more marked on the left than the right. Intestines were moist and distended with gas; spleen was much enlarged; pulp much swollen and soft. Mesentery glands were enlarged and hemorrhagic. The kidneys were enlarged, cortex swollen and markings indistinct. The left ovary was hemorrhagic; endometrium normal; no sign of inflammation in the vagina. The liver was normal in size, cut surface was pale, and several areas showed distinct tendency to hemorrhagic infiltration. The pericardium was normal, pericardial fat abundant. Aortic and mitral valves appeared normal. There was marked congestion of the lungs, and no pleuritic adhesions, and nowhere did they show signs of consolidation. Bipolar bacilli were seen in large numbers on smears from both inguino-femoral enlargement; none were found on smears from the spleen and heart blood. The cultures taken from the gland before death by Dr. Ryfkogel showed in 36 hours a pure culture of an organism identical in its cultural reactions with bacillus pestis. The growth on agar was very viscid and showed the characteristic ground-glass appearance. The organism was transferred to bouillon, Dunham's solution, glucose agar, 3 per cent. salt agar, gelatin, and milk. Microscopic examination of the agar showed growth to be composed of bipolar bacilli, decolorizing by Gram's method. In bouillon it grew in short chains which formed a deposit at the bottom and sides of the tube. The growth in bouillon showed a very characteristic agglutination reaction with anti-pest serum from the Institut Pasteur, the dilution used being 1 to 200. The reaction occurred within ten minutes. No indol was formed in Dunham's solution (test controlled with B. coli communis). Gas was not formed in glucose agar; no alteration could be seen in the milk; gelatin was not liquefied; the characteristic involution forms were present on salt agar.

The guinea-pig inoculated with tissue juice from Shina died in 72 hours, and at autopsy showed the characteristic lesions and distribution of bipolar bacilli seen in experimental pest. A guinea-pig and pigeon immunized with anti-pest serum were inoculated by Dr. Ryfkogel, with a pure culture obtained from this girl, and at the present writing are alive and apparently healthy six days after inoculation. A control pig, although inoculated with one-half the dose of the same culture as the immunized, died in forty hours.

Fuku Inaki, also a Japanese girl, died at the same place on July 11, with clinical history and autopsy findings, similar to the other cases. A pig inoculated from this girl's tissues by Dr. Kellogg died in from seven to eight days, showing typical plague infection.

CANADA.

Dr. Ethier, late superintendent of the Notre Dame Hospital, Montreal, has gone to Paris to spend the next three years in study.

The Protestant Hospital for the Insane at Verdun, Quebec, is shortly to be enlarged by the erection of two new buildings, one of which will be known as the isolation wing. In it there will be as many as forty private wards with accommodation for nurses. The additions will cost $70,000.

Analyses of Foods.—Mr. Milton Horsey, who has been recently appointed corporation analyst of Montreal, has been making analyses of various and sundry foods used by the citizens of that city. He finds that milk was not well kept, that the drinking water is satisfactory and will compare favorably with the supply of many American cities, that there is abundance of impure ice in use and that certain canned goods, notably lobsters and tomatoes, were quite bad and unfit for food.

Anthrax in Eastern Ontario.—The Department of Agriculture at Ottawa has received reports of outbreaks of anthrax in three different sections of the Province of Ontario. The disease so far is confined to cattle and horses, of which 25 of the former and 4 of the latter have died of the disease in one district. The disease is also prevalent a short distance from Ottawa and precautions are being taken to prevent its spread. The employees of a tannery in the neighborhood are being carefully watched for signs of the disease.

Deaths in Toronto Maternity Homes.—A maternity home on the northern confines of the city has been attracting some little attention the past week owing to the fact that the mortality in the institution has been put down at 50 per cent. This has called attention to the condition of these places in the city proper and the medical health officer has given out some statistics with regard to them. There are fifteen maternity homes in Toronto and thirty-five baby farms, which are all subjected to a very close inspection by a special medical officer, and careful records kept thereof. The babies born in these homes of the city last year number 130, of whom 14 died, 13 were adopted in good homes; the rest remained in the homes.

Barbers in Montreal Object to Association.—At the present time there appears to be no end of trouble among the barbers of Montreal and it is all due to the act passed at the session of the legislature of 1899 incorporating the Barber's Association of the Province of Quebec. For some time past a petition has been in circulation requesting the Lieutenant-Governor to revoke certain clauses of the act. Clauses seven, eight and nine of this petition have particular reference to the hygienic conditions of the shops. Clause nine sets forth their objections to the medical inspection and examination of the employees. This examination, if made seriously, they consider visionary, inasmuch as the barber examined may be contaminated from one moment to another, and to make such examination really useful and serious, it would be necessary to examine the barber after each and every operation, which would be utterly impracticable. Members of the Association have to pay $2 for this medical examination and a further $2 for a certificate.

Toronto Physicians and Professor Koch's New Theory.—Several Toronto physicians have been interviewed with regard to Professor Koch's recent paper. Dr. Sheard, the medical health officer, considered that any statement from Dr. Koch must be received with a certain amount of belief on account of his illustrious and untiring work in that field. He thought that the investigations of the Royal commission appointed in England fifteen years ago clearly showed that there was not so much to be dreaded from the production of tuberculosis through meat and milk as some were inclined to fear. If the statement of Professor Koch were substantiated it would not affect the inspection of dairy and food products in Toronto. Dr. H. B. Anderson, professor of pathology in Trinity Medical College, did not think that the announcement if true would make any difference in the regulations looking to the food products and the sanitary conditions of their source. Dr. P. H. Bryce, secretary of the Provincial Board of Health said that if Koch's statements were true, the saving of cattle from the terrible ravages of tuberculosis was a sufficient justification for the measures that are being taken to stamp out bovine tuberculosis.

FOREIGN.

The Northern Congress of Surgery will be held at Copenhagen, August 29 to 31.

Medical Schools are to be established at Bagdad, Damascus, Smyrna and Adrianople, by a recent decree of the Sultan of Turkey.

An International Medical Congress is being organized to meet at Cairo, Egypt, February, 1902, according to the *Gazette Méd. de Paris.*

Professor Lapersonne, of Lille, has been invited to fill the chair of ophthalmology in the Paris Faculté de Médecine, left vacant by the retirement of Professor Panas on account of the age limit. Summoning a professor to Paris from the provinces is a rare occurrence.

Deaths Abroad.—Dr. Delpeuch, of Paris, connected with the Cochin hospital, a frequent contributor to the medical press.——G. B. Laure, of Turin, assistant professor of anatomy, whose mounted specimens were awarded a gold medal at medical congresses at London and Genoa.

A New English University Proposed.—It is proposed to found a university in Liverpool by making University College a degree-conferring institution. In 1900 the College had 490 students in arts and science, and 166 in medicine. The nearest university to Liverpool is Victoria University in Manchester, which naturally opposes the proposal.

Royal Honor for Britons.—King Edward recently conferred knighthood on Thomas Smith, F.R.C.S., Deputy Surgeon-General Henry Julius Blanc, and William Henry Bennett, F.R.C.S., and likewise invested them with the insignia of Knight Commanders of the Royal Victorian Order. The following were invested with the insignia of Commanders of the Order: Dr. Donald W. Hood, Mr. John H. Morgan, F.R.C.S., and Mr. Charles Arthur Morris, F.R.C.S.

Italy Opposes Foreign Practitioners.—The British government extended reciprocity of recognition of medical qualifications to the kingdom of Italy last March, as stated by the *Brit. Med. Journal*, but the Italian practitioners are doing their utmost to prevent outside physicians from attending even the foreign tourists. They contend that whatever custom that exists in favor of those holding foreign diplomas was in vogue before the unification of the kingdom and does not hold good now. Recently a graduate of Berne University and clinical assistant to Professor Kocher passed the required final examination in medicine in the University of Pisa, but the faculty, assisted by the Ordine dei Medici, of Rome, have presented resolutions to the Minister of Public Instruction asking that no permission to practice be granted.

German Practitioners' Association.

The Deutscher Aerztevereinsbund, or Practitioners' Association of Germany, is the national organization made up of 302 local societies, with 18,337 members. The total number of physicians in the German empire is about 27,400. The aim of the Bund is to promote the ethical and material interests, and the honor and dignity of the profession. Strictly scientific addresses are not included in the program of the annual meeting or published in the organ of the Bund. The annual meeting was held this year at Hildesheim, June 28, with Professor Loebker in the chair. The Bund has increased by 9 societies and 1751 members since last year, and 195 of the societies were represented at the meeting or Aerztetag, by 175 delegates, representing 16,473 votes, an increase of 57 delegates over last year. The income of the Bund in 1900 was 72,852 marks, the expenses nearly 50,000. The organ of the Bund is an expense instead of being a source of income, and certain members urged extension of the advertising department, as a journal reaching more than 18,000 persons ought to be a good advertising medium. The president, in his address, voiced the general disapproval of the profession of the new government regulations affecting admittance to the medical courses mentioned in THE JOURNAL of July 6, p. 28, and of July 20, p. 208. The amendments proposed and submitted by the Bund were disregarded by the authorities. The address on the subject of "Quackery" stated that it was on the increase in Germany and that physicians are apathetic in the matter. Only 903 replied to the 6313 circulars of inquiry sent out. A number of serious physical injuries resulting from quack practice were related and the members urged to collect such examples. The authorities seem to be indifferent and the laws are inadequate to protect the public, but the Berlin physicians have waged an effective warfare against the titles paraded by charlatans.

THE BATTLE WITH THE CLUBS.

The chief interest of the meeting centered in the discussion of the attitude to be observed toward the new Leipsic Medical Union, the "Verband der Aerzte Deutschlands zur Wahrung ihrer Wirthschaftlichen Interessen." This society was organized by those who were dissatisfied with the lukewarm methods of the Aerztevereinsbund in regard to the burning question of the Krankenkassen, the sickness insurance societies, clubs, etc., which grind down their medical officers to the lowest possible rates. The *Allg. Med. Central Zeitung* of June 29, states that in 1899 there were 22,872 of these clubs, with a membership of 9,155,582. Their cash balance at the end of that year was practically $30,000,000. These figures show the magnitude of the "battle with the clubs." The Leipsic Union was organized for the purpose of procuring a fund sufficient to inaugurate a general strike throughout the country of all the medical officers of the Krankenkassen, to clear the ground for a new and more equitable arrangement than now prevails. The idea of a general strike was soon abandoned, however, and the Union aims now to assist individual physicians or a single group against the extortions of the Krankenkasse, supporting them materially and morally in case they find it necessary to resign their positions, and bringing strong influence to bear to prevent other physicians from stepping into their places. The Union was hailed by many as the long-sought means of relief from the oppression of the Kassen, which the existing organizations had neglected or failed to oppose with any effectiveness. The Union now numbers 1500 members. Each contributes a mark a week toward the fund. All have confidence that the promoters of the Union are bending every energy to realize their ideal, although it has not as yet accomplished anything except, perhaps, to arouse the Aerztevereinsbund to renewed energy.

The latter voted at the annual meeting to establish a central office at Berlin with a physician in charge, on a salary of 8000 marks and a reserve fund of 10,000 marks to draw on. The duties of this official representative of the Bund are, 1, to promote the ethical and material interests of the profession and defend them against attacks; 2, to edit the organ of the Bund and serve as general secretary; 3, to supply information on legal questions affecting the profession and its relations to the authorities, the legislature, the professional and lay press, etc., and to assist in the organization of new sub-societies; 4, to endeavor to have the sums paid physicians by the Krankenkassen increased, to strive to have "free choice of the physician" introduced by the Kassen, and to combat quackery in every possible way; 5, to guard the interests of physicians in contracts with the Kassen and other corporations, and 6, to secure positions for German physicians at home and abroad. After long discussion the meeting voted to appoint a delegate to represent the Bund on the managing board of the Leipsic Union, but a resolution advising members to join the Union was voted down. It was claimed that the aims and intents of the new Union are practically identical with those of the Bund and that, instead of organizing new societies and splitting up the united forces of the profession, all should rally to the existing association and strive to improve and perfect its methods with loyalty to the Bund, to each other and to the profession as a whole.

LONDON LETTER.

Army Medical Reform.

Considerable dissatisfaction is felt in the profession as to the constitution of the committee appointed to consider the future organization of the Army Medical Service. The subject has already been referred to in THE JOURNAL. The committee does not contain a single senior officer of the Army Medical Staff, yet two combatant officers have been appointed. This is only the old story of slighting as much as possible the army surgeons by the military authorities. Mr. Broderick, the secretary for war, has promised "drastic reforms" of the medical service. It is curious that while the Commission of Investigation into the South African hospitals found that the principal defect—undermanning—was due to the failure of the military authorities to comply with the request of the medical staff for more men, and while the army surgeons have on the whole been shown to be perfectly competent the combatant officers have often proved to be gravely deficient in tactics and strategy, yet not a word has been heard of "drastic reforms" of the army itself. The reason is not far to seek. The army is controlled by the so-called upper classes, and under the present conservative government effete caste prejudices have full sway. The attitude of the high officials towards the surgeons has always been hostile. Again and again, reforms by which their status has been improved have been won with the greatest difficulty, only with the help of pressure from the medical profession outside. The South African war has shown the need of many further reforms. The medical staff should be placed in a position of greater independence and have more autonomy. The question of improving the knowledge of army surgeons urgently calls for consideration. To obtain this result, more secure status, better pay and leave of absence for study from time to time at hospitals must be granted.

The National Hospital for the Paralyzed and Epileptic.

The long struggle between the medical staff and the board of this famous hospital, which has been described from time to time in THE JOURNAL, has at last come to an end. The request of the staff for two seats on the board has been granted. The anomalous office of secretary-director by which the whole power of management was placed in the hands of a paid official, who was at once master and servant of the institution, has been abolished. This individual, whose attempt to ride rough shod over the medical staff has been the principal cause of the trouble, has resigned. Naturally, having ruled for so long, he did not like to become simply the secretary of the hospital. In the report of the committee of inquiry which has been unanimously adopted, it is declared that there are no foundations for the fears entertained that the character of the hospital as a religious and philanthropic institution will be imperiled by the presence of two medical men on the board—an assertion made by the latter body.

Blindness from Sodium Salicylate.

At the Ophthalmological Society Mr. Simeon Snell related the following very rare case: A girl suffering from acute articular rheumatism was given sodium salicylate. At 7.30 a. m. she awoke and said that everything was dark in front of her. When her physician visited her between 11 and 12 she could not distinguish light from darkness. Next day, Mr. Snell saw her and found her perfectly blind. Ophthalmoscopic examination revealed nothing abnormal. On the following day when she was succumbing to endocarditis and pericarditis she was again examined with negative result. She died that evening without return of vision. The total quantity of sodium salicylate taken was 140 grs. at least, possibly 160 grs. in 60 hours. Mr. Snell thought there could be very little question that the sodium salicylate was the cause of the blindness.

Rupture of the Uterus in Placenta Previa: Treatment of Rupture of the Uterus by Gauze Packing.

At the Obstetrical Society Mr. J. P. Maxwell, of Amoy, China, read a paper on spontaneous rupture of the uterus in placenta previa, of which he had seen three cases. In the first the woman died undelivered within a few minutes of the rupture; in the second the uterus was found ruptured posteriorly after delivery and there was dangerous hemorrhage, but recovery took place after antiseptic gauze packing of the rent. The following is the third case: A Chinese woman, aged 23, had poor health during pregnancy. At term she had weak pains and the cervix did not dilate well, especially posteriorly. The edge of the placenta was felt behind. Twelve hours later, the cervix had closed and admitted one finger with difficulty. Slight hemorrhage occurred. After fourteen days, labor came on, but the os did not dilate well behind. When it was nearly dilated severe hemorrhage began. The membranes were ruptured and the child was born in ten minutes without assistance. The moment it left the vagina blood simply poured out and death seemed imminent. The speaker turned the patient on her back, expressed the placenta, and forcibly pressed the uterus downwards and backwards. Ergot was administered hypodermically and by the mouth. The hemorrhage, which had been checked by the pressure, came from a rent in the posterior wall of the uterus and cervix. The finger could be passed into Douglas's pouch. The rent was packed with gauze wrung out of biniodid of mercury lotion and pressure was kept up on the uterus for two hours. The gauze was removed in twenty-four hours. No douche was given and recovery was uneventful. The child was puny, weighing 5 pounds. There was placenta previa marginata and the rupture had occurred through the entire cervix and lower portion of the placental site. In cases of placenta previa the wall of the uterus is not strong, and in some cases fatty degeneration of the uterus muscle has been discovered, and severe pain is apt to start a rent, which then enlarges mechanically.

In the discussion which followed, Dr. Herbert Spencer expressed his appreciation of the treatment by gauze-packing. Last year in a paper read before the Society he called attention to this method of treating rupture of the uterus and related four successful cases. In his previous experience all the cases of rupture of the uterus (8) were fatal. At present abdominal section is usually recommended for complete rupture of the uterus; but that operation, especially if followed by hysterectomy, is generally too severe for a patient suffering from rupture of the uterus. If others with experience of the accident would publish all their cases, Dr. Spencer has little doubt they would compare unfavorably with those of gauze-packing.

Dr. Armand Routh had seen one case of rupture of the uterus with placenta previa. The patient was eight months pregnant and had several attacks of hemorrhage. Under deep anesthesia the cervix was rigid and it was not easy to insert a finger. Anterior marginal placentation was found. The tongue of placenta was separated from the lower uterine segment, podalic version was performed, and the leg was brought down to the half-breech, which was left *in situ* for nature to complete the delivery. In about twenty-four hours labor pains came on and the child and placenta were spontaneously expelled. In two days septicemia was evident and the patient's physician then found that the uterus was ruptured anteriorly. The patient died.

The president (Dr. Horrocks) thought that gauze packing was the best treatment of rupture of the uterus. It was the most successful in saving life. He described a case of most extensive rupture treated by packing which was renewed under chloroform every day for twelve days, then less frequently. The patient after this became very ill, and at last a large slough was extracted from the right broad ligament. Recovery ensued.

PARIS LETTER.

Arterial Tension in Neurasthenic Patients.

The variations of arterial tension have been studied by Professor Potain, and especially by one of his former house physicians, Dr. Vaquez, and though the researches on this subject were at first confined to a relatively narrow field, they have of late been extended to other regions. Dr. Fleury read a report recently on this subject to the Academy of Medicine, and he said that neurasthenic patients might have a low tension, and they would in such a case be improved by rest and tonics, whereas there were others, suffering at the same time from symptoms of gout, uricemia, alcoholism, and diabetes, who showed excess of tension and were cured by all that would favor the elimination of toxins such as exercise, lacto-vegetarian diet and diuretics. It would, therefore, be advisable to consult the condition of the patient from this point of view before formulating a treatment. At the Society of Therapeutics Professor Sluchard, the well-known heart specialist, said there were three varieties of hypertension: 1. Arterial hypertension, which was due to arteriosclerosis, required a special treatment, consisting of a lacto-vegetarian diet, massage, veratrum viride, and nitrite of amyl. 2. Pulmonary hypertension, brought on by mitral stenosis, caused what is called palpitating arythmia. 3. As for portal hypertension, the best treatment consisted in the use of a lacto-vegetarian diet and abdominal massage.

Antitetanic Serum—Four Good Results.

In one of the last meetings of the Society of Surgery, this serum did not seem to elicit much enthusiasm from certain members of the Society. A week later, however, Dr. Tuffier cited an observation furnished him by Dr. Letoux, of Vannes, who, in a case of lockjaw resulting from a wound of the foot, made two injections of 10 cubic centimeters into each hemisphere. The symptoms observed began to be less apparent, and the patient was quite cured seven days after. This proved to be the fourth case Dr. Letoux had treated in this manner with success.

Cocain in Sciatica.

Intrarachidian injections of cocain have been used recently in Paris as a method of treatment of sciatica, and Dr. Lougues has just tried it in injection outside the dura mater. Two centigrams of cocain were injected. The patient had been suffering from sciatica since five months. After the first injection there was immediate relief, but the pain came back after a time. A second injection was followed by a complete cure, which has already lasted five weeks. Dr. Achard said that he made both sorts of injections, and he found that the intrarachidian injections were more active, and relieved the patient sooner. According to Dr. Lamy, the epidural method is safer, when the patient can not be kept in bed a certain length of time.

Case of Death After Medullar Cocainization.

Dr. Broca, surgeon of the Paris hospitals, has recently communicated to the Society of Surgery a case of death after spinal cocainization furnished him by Dr. Prouff. The patient, a woman 62 years old, thought she had a foreign body in one of her feet. She was suffering at the same time from chronic arthritis of the hip-joint and knee, and Dr. Prouff did not hesitate to make an injection of one cubic centimeter of a 1 per cent. solution of cocain. The incision in the foot was readily carried out, and the patient was able to go home on foot an hour after the injection was made, and go up several flights of stairs. Dr. Prouff was called to see his patient in the afternoon, and found her suffering from most intense pain in the back. The pulse was extremely weak and there was extreme paleness of the face. Dr. Prouff had the patient get up and walk, and saw that there was no motory or sensory trouble. He did not prescribe any treatment. The patient died next day. This would seem to be a bona fide case of death after rachi-cocainization, and would tend to show, as Dr. Broca has said, that such a method should not be entrusted to everyone. Dr. Nélaton, the son of the celebrated surgeon of Napoleon III., said that he had had occasion to witness recently very severe cardio-pulmonary symptoms in a patient who had been anesthetized in this manner. There was a good deal of dyspnea and pallor, and a weak and rapid pulse. These accidents lasted a whole day and were in part relieved by repeated injections of caffein. The solution of cocain was analyzed, and was found to contain elements resulting from the disintegration of the cocain.

Correspondence.

Patent for Vaccination.

Baltimore, Md., July 30, 1901.

To the Editor:—Probably the only patent ever granted for vaccination in this country is one I recently found in the archives of the Medical and Chirurgical Faculty of the State of Maryland, which is rich in medical documents of great historical interest to the state. The patent is dated July 10, 1822, and is granted to Dr. James Smith, of Baltimore, for a new and useful improvement in the art of vaccination. It was good for 14 years and cost the patentee $30. It was signed by James Monroe, president; John Quincy Adams, secretary of the state, and Wm. Wirt, attorney-general, and contains the seal of the United States. It is upon a large sheet of parchment. The following is an abstract of this unique document: "The Variola Vaccina or kine pock and the Variolæ Pestilentia or smallpox are both perfect plants that may be classed according to the system of Linnæus in the cryptogamous class, order Fungi (of same genus, but different species) of the vegetable kingdom. They are respectively produced each from their own proper seed and they can not be produced in any other way. When mature and perfect they exist in the form of crusts or scabs, which are naturally organized and uniformly of a like appearance, and may be distinguished from any other scabs by their shape, size, color, texture, and consistence. The appearance of the vaccine crusts is a true criterion of a true vaccination and one can so determine without having seen the case. Vaccine crusts may be preserved for the longest time by setting them in bees-wax or wrapping them in waxed paper. Vaccine matter in any other form may be preserved in the same way. Vaccine matter may be taken at any time from a fresh vaccine crust by applying a little water to it and then rubbing it with any rough or sufficiently hard instrument to break its natural texture. When thus grated or filed, the vaccine matter may be put up on small pieces of glass or plates of ivory or any other hard and smooth substance to which it will adhere when dry and in this state it may be transmitted by letter to the most distant places. When put up on glass, ivory, etc., as above, the vaccine matter taken from any genuine crust may be known and distinguished by its being less transparent than matter taken from the arm on the 8th day, as commonly recommended."

The following is the record of Dr. James Smith taken from my forthcoming volume, "The Medical Annals of Maryland": "Smith, James, deceased, born Elkton, Cecil County, Maryland, 1771, A.M., Dickinson College, 1792. Pupil of Benjamin Rush, 1794. Said to have taken M. D. at University of Pennsylvania. A founder and attending physician to Baltimore General Dispensary, 1801-7. Resident physician to Baltimore Almshouse, 1800-1. Began vaccinating in Baltimore, May 1, 1801, and opened a Vaccine Institute there March 25, 1802. State vaccine agent, 1809-13. United States vaccine agent, 1813-22. Editor of *Vaccine Inquirer*, 1822. Treasurer Medical and Chirurgical Faculty of Maryland, 1811-17. Died Pikesville, Baltimore County, Maryland, June 12, 1841. No man in America did so much to spread the benefits of this great discovery over the land, and Dr. Smith's services entitle him to be held in everlasting gratitude. He may be justly called the 'Jenner of America.'" Eugene F. Cordell, M.D.

Treatment of Laryngitis.

St. Louis, July 24, 1901.

To the Editor:—In an article on "The Treatment of Laryngitis," which appeared in The Journal of July 20, page 180, the author, in speaking of pachyderma laryngitis, ascribes the salicylic acid method of treatment to Fein. If I mistake not, Dundas Grant was the first laryngologist to advocate this method of treatment in 1897, and I am under the impression that Fein gives Grant credit for first advocating this method. Several years ago I had the privilege of seeing Grant treat a number of these cases thus, *with most excellent results. Grant's* method of treating these cases and results can be found in an article by him in the *Journal of Laryngology, Rhinology and Otology*, October, 1899. Very truly,

W. B. Shields, M.D.

Association News.

New Members.

The following is a list of new members of the American Medical Association for the month of July, 1901:

ALABAMA.

Steiner, S. F., Montgomery.

ARKANSAS.

Miller, Otey, Fayetteville.
Wood, H. D., Fayetteville.
Henderson, A. G., Fayetteville.
Young, F. B., Springdale.
Hardeman, D. R., Little Rock.
Foltz, Jas. A., Ft. Smith.

CALIFORNIA.

Barlow, W. Jarvis, Los Angeles.

COLORADO.

Sanford, Jas. Brownlee, Castle Rock.

CONNECTICUT.

Shepard, Durell, West Haven.
Gaylord, Chas. W., Branford.

GEORGIA.

Smith, E., Atlanta.

ILLINOIS.

Collins, Rufus J., Chicago.
Holmes, Rudolph W., Chicago.
Betts, Geo. S., Banner.
Cuthbertson, Wm., Chicago.
Smith, W. A., Galena.
Hopper, H. C., Galesburg.

INDIANA.

Norris, Sam'l E., Anderson.
Gobe, Henry E., Indianapolis.

IOWA.

Mueller, J. A., New Vienna.
Tyler, Edw. K., Muscatine.
Bennett, Theophilus W., Lenox.
Dewitt, Chas H., Glenwood.

KANSAS.

Richard, Chas., Ft. Leavenworth.

KENTUCKY.

Stallard, J. M., Sparta.
Hummel, J. L., Jeffersontown.
Drake, John W., Louisville.
Kelsall, O. H., Louisville.
Hobbs, P. A., Normandy.
Kinnaird, J. B., Lancaster.

MARYLAND.

Hardcastle, Hughlette, Baltimore.
Kemp, C. Percy, Kent Island.
Simpson, G. W., Baltimore.

MEXICO.

Gregory, Veedo B., Tampico.

MASSACHUSETTS.

Flewelling, Douglas S., Summerville.
Potter, Lester F., New Bedford.

MICHIGAN.

Davis, J. E., Detroit.
Moll, G. W., Foster City.
Orr, Geo. W., Lake Linden.

MINNESOTA.

Persons, C. E., Marshall.
Cochrane, Wm. J., Lake City.
Mayo, Chas. H., Rochester.
O'Hara, J. J., Alma City.
Williams, Henry L., Minneapolis.
Valin, Honore D., St. Peter.
Rothrock, John L., St. Paul.
Wilcox, Hamilton H., Albert Lea.
Edmunds, Ira Leslie, Clearwater.

MISSISSIPPI.

Anderson, Wm. J., Increase.

MISSOURI.

Lane, J. W., Linneus.
Bradbury, Richard M., Maryville.
Halman, J. H., Hartford.
Haynes, Lee, Mendota.
Buchanan, J. Robt., Nevada.

MONTANA.

Bernheim, L., Butte.

NORTH DAKOTA.

Bennett, Chas. E., Aneta.
Sibler, W. F., Devil's Lake.

NORTH CAROLINA.

Goodwin, Andrew J., Raleigh.

NEW MEXICO.

Hart, T. N., Raton.
Pearce, John F., Albuquerque.

NEBRASKA.

Talboy, Wm. R., Newcastle.

NEW JERSEY.

Allen, Chas. L., Trenton.

NEW HAMPSHIRE.

Anthoine, I. G., Nashua.
Hodsdon, B. F., Manchester.

NEW YORK.

Reed, Albert, Highland.
Sturtevant, Jeremiah R., Theresa.
Stillwell, Alex., Dwaarkill.
Johnson, *W. D., Batavia.*
Schofield, E. A., Bemus Point.
Schofield, E. M., Jamestown.
Kaufmann, Franklin J., Syracuse.

OHIO.

Devers, A. B., Cincinnati.
Haarlammert, Chas. J., Loveland.
Woodford, Erwin W., Cleveland.
Howell, W. E., Rio Grande.
Swartsel, C. S., Cincinnati.
Smith, B. Decatur, Cincinnati.

OREGON.

Brooks, F. M., Silverton.

PENNSYLVANIA.

Harding, R. A., York.

SOUTH DAKOTA.

Alway, Robt. D., Aberdeen.
Rock, Henry J., Aberdeen.

TENNESSEE.

Duncan, Wm. A., Chattanooga.
Drouillard, L., Memphis.

TEXAS.

Moore, Jno. Thos., Galveston.
Baze, R. J., Mason.
Vinyard, Geo. T., Crafton.
Cummings, H. W., Hearne.
Taylor, M. A., Honey Grove.
Jones, Robt. Harrison, Will's Point.
Smith, Forrest B., Houston.
York, J. B., Brenham.
Moorhead, John D., Levita.
Brown, John R., Hutto.
Hall, Chas. M., Rico.
Berrey, D., San Antonio.

VIRGINIA.

Irving, Paulus A., Richmond.
Firebaugh, T. C., Harrisonburg.

WEST VIRGINIA.

Pritchard, Thos. J., Huntington.

WISCONSIN.

Lasche, P. G., Milwaukee.
Gramling, Henry J., St. Martins.
Mason, Geo. Franklin, Milwaukee.
Loops, Walter A., Milwaukee.
Connell, J. B., Fond du Lac.
Wehle, W. J., West Bend.

Miscellany.

Temperature of Mouth and Rectum.—Dr. M. S. Pembrey, according to the *Brit. Med. Jour.*, has been experimenting upon the effect of muscular work on the temperature of healthy men. The temperature of the rectum or urine may rise as high as 38.5 C. (101.3 F.) during muscular work without causing any distress. The rise of the temperature of the mouth is hindered by the inhaled air and the loss of heat by radiation and evaporation of sweat from the face and neck.

Such is Fame!—The *New York Times* magazine supplement for June 16 is responsible for the following: "Some years ago," said Bishop Potter, in a recent speech, "I was traveling in Minnesota. A man approached me on the railway platform and scanned my features closely. 'Excuse me,' he said, finally; 'but haven't I seen your picture in the papers?' I was compelled to confess that he might have done so. 'I thought so,' continued the inquisitive one. 'May I ask what you were cured of?' "—*N. Y. Med. Journal.*

Test of Leukemic Blood.—Sabrazès states that a drop of blood from a normal subject mixed with twenty drops of pure or distilled water, produces a clear, reddish fluid as the red corpuscles are instantly dissolved. But if the blood is from a patient with myelogenic leukemia, the fluid remains turbid and opalescent. The white corpuscles are not destroyed by the water and remain in suspension, rendering it less limpid than the solution of normal blood. The same phenomenon would probably occur in case of much leucocytosis from any cause.

Research on the Hematology of Typhoid Fever.—An article in a recent issue of *Sperimentale* describes the results of the repeated examination of the blood of eighteen patients with typhoid fever. The red corpuscles progressively diminished in number; no leucocytosis occurred. If noted, it indicated some complication. The polynuclears and the lymphocytes progressively diminished in numbers, but increased again as convalescence commenced. The eosinophiles sometimes vanished completely during the fever, but reappeared in progressive numbers as recovery progressed.

Subcutaneous Injections for Relief of Vulvar Pruritus.—Siebourg of Barmen has been very successful in the relief of rebellious cases of vulvar pruritus with local subcutaneous injections of 300 c.c. of a very weak solution of cocain or phenic acid. The nature of the fluid is of less importance than the quantity. It lifts the skin and pulls on the nerve terminals, thus benumbing them and abolishing the pruritus. He reports in the *Cbl. f. Gyn.* of June 27, several cases of vulvar, anal and other pruritus relieved for a week or longer by this means, which can be repeated as required, combined with local applications until cured.

The Cedron Seed in Yellow Fever.—Dr. S. H. Hodgson, of the Marine-Hospital Service, at Progreso, Mexico, in his report of July 8, gives the following account of this bean: Among the remedies used in Central and South America as an antidote for the stings of insects and the bites of snakes, the seed or bean of the cedron has been found to be a specific. A tincture is made from the grated or mashed seed and is also made into a fluid extract. He made a tincture from the beans and used it as an antidote for stings of insects and the bite of a snake, and found that the action was almost immediate and the relief complete. The antitoxic properties of this remedy were so great that he thought that it might be of some benefit in yellow fever, and had an opportunity to try it in several cases of that disease, and from the results concluded that it is as specific for yellow fever as quinin is for malaria. The experiments with the drug were under the most unfavorable circumstances. He was the government physician stationed at Jiminez, Costa Rica, at the time, and his patients were the native laborers on the near-by farms. Their surroundings were very insanitary, and the only nurses available were uneducated, unclean, and, as a rule, ignorant. The tincture was homemade, not guaranteed to be antiseptic, and of very uncertain strength. Dr. Hodgson kept no notes of the cases treated, and about the time that he realized that the remedy was valuable the epidemic played out, and there was no more material to experiment on. Every case that he treated with the tincture recovered. It relieved the headache, stopped the nausea, and in the cases where it was injected early in the disease there was very little congestion. The tincture was used in hypodermic injections of about 20 minims three times a day.

The Quantity of Water in Foods.—It is not very generally realized how much water there is in solid food. Certain it is that no natural food is without water, varying in amount from 5 to 97 per cent., or only 3 per cent. short of pure water itself. Milk, of course, must be taken as the type of a complete food and yet it contains, even straight from the cow, very nearly 90 per cent. of water, or, to be more accurate, from 87 to 88 per cent. That is to say, more than four-fifths of milk consist of water, and as this is the condition in which it is naturally furnished the inference is that the fats, the sugars, and the proteids were intended to be taken in a diluted state. Indeed, the composition of other foods would teach the same thing, although, paradoxical as it may seem, some solid foods contain more water than does milk. This is especially true of vegetables and fruits. Thus the turnip contains over 90 per cent. of water, the cabbage nearly the same amount, and the cucumber and the vegetable marrow about 95 per cent.; whilst amongst fruits the strawberry contains nearly 90 per cent. of water, the apple 82 per cent., and grapes 80 per cent. Even the various meats used as food contain an amount of water far in excess of the amount of solid constituents. Thus three-fourths of beef and mutton consist of water. The housekeeper, perhaps, scarcely realizes when consulting the butcher's price-list that three-fourths of the meat are water and are paid for with the rest at the rate of a shilling or more per pound. Lamb contains less water, namely 64 per cent., pork still less, 60.9 per cent., and bacon only 22.3 per cent. It would appear that as the flesh foods increase in the amount of fat the proportion of water, as a rule, diminishes. Coming to birds, the flesh of the fowl and duck contains about 70 per cent. of water and that of the pigeon 75 per cent., while the flesh of the goose contains only 38 per cent., the last being another example of the fat increasing with a corresponding diminution in the proportion of water. Fishes contain from 40 to 80 per cent. of water. The egg, one of the most powerful of nutritives, contains 65.5 per cent. of water, the white, consisting of 86 per cent. and the yolk of 50.9 per cent. The latter, of course, is the more nourishing part. As a rule foods containing a small proportion of water are not fit for human consumption until they are cooked; which commonly means reducing them to a digestible state by adding water and boiling or baking, and so when they are actually partaken of they contain a good percentage of water. Wheat flour, for example, contains only 12 per cent. of water, while bread contains nearly 50 per cent. It would appear to be necessary, therefore, that food should be in a decidedly moist condition before it is fit for use, and thus water plays a rôle in food which at first sight perhaps does not seem evident. Bacteria can not live or act except under a wet environment and chemical change under absolutely dry conditions is impossible; therefore without moisture life would cease and the great vital processes would come to an end.—*The Lancet.*

Saline Infusion in Chronic Anemia.—O. Kose states that the improvement in five cases was so striking that he considers himself justified in proclaiming that the injection of physiologic salt solution induces a vigorous reaction on the part of the organism in chronic anemia. The temperature rises, fever may follow, the pulse is stronger and all the secretory organs are stimulated in their functions. After a number of injections a rapid regeneration of the blood corpuscles ensues and all the physical forces feel the beneficial effect, especially the cells of the blood forming organs, while the sluggish circulation is roused to new activity.

Curability of Leprosy.—Ehlers states in the new international periodical *Lepra,* 1, 4 to 6. that he found two cases of complete, spontaneous recovery in his study of leprosy on the island of Crete. Danielssen and Lie have reported thirty permanently cured in the course of their long experience at the Bergen leper hospital. Ehlers has been investigating the Guber springs at Srebrenitza, Bosnia, which for ages have had the reputation of being a cure for leprosy. He is amazed and delighted at their unmistakable curative influence. The ulcerations healed over and the nodules and all symptoms disappeared under a course of these waters, internal and external. Glueck of Serajevo also describes a series of similarly successful results of the treatment of leprosy at the Guber springs.

Alcohol Fomentations in Pleurisy with Effusion and Arthritis.—The stimulation of the natural recuperative forces by the local, prolonged application of alcohol has been found extremely beneficial in pleurisy with effusion, articular rheumatism and also in acute gout. Burwinkel reports in the *Allg. Med. Centztg.* of June 1, the application of an alcohol compress over night banished the pain in a peculiarly severe and rebellious case of articular rheumatism. A pleuritic effusion which had persisted unmodified by any measures, rapidly subsided after four applications of alcohol for two hours each. The relief obtained in two cases of gout surpassed that secured by other measures in years of experience. He describes several other cases benefited in the same way.

The Three Hypertensions.—Huchard has recently been calling attention to the three hypertensions—the arterial, the pulmonary and the portal. The arterial is the condition preceding sclerosis, the only manifestation being the increased arterial pressure. THE JOURNAL has previously cited his views in regard to the necessity of energetic treatment of this antesclerosis. Pulmonary hypertension occurs in gastric affections and in the mitral stenosis of arteriosclerosis. The chief symptom is palpitating arrythmia, aggravated by digitalis. The third hypertension is the portal stasis or abdominal plethora, the frequent cause of enlargement of the liver, of intestinal disturbances, recurring bronchitis, torpid kidneys, hemorrhoids, obesity, etc. The portal stasis immobilizes a large amount of blood in the abdomen and thus entails various symptoms from the resulting anemia, arterial hypotension and auto-intoxication from the hepatic insufficiency. It is also one of the principal factors of the disturbances of the menopause and of obesity from anemia.

Married.

MAYER SHOYER, M.D., Lawrence, Kas., to Miss Edna Denton, Leavenworth, July 18.

DANIEL E. EISELIN, M.D., to Miss Mabel E. Brown, both of Shortsville, N. Y., July 18.

EUGENE WORTHEN, M.D., to Miss Jessie B. Davison, both of Holderness, N. H., July 12.

THOMAS E. MACAULEY, M.D., Gilberts, Ill., to Miss Amanda A. Swanson, Genoa, Ill., July 17.

GEORGE D. BRINKMAN, M.D., Springfield, Ohio, to Miss Anna Masefield, Columbus, Ohio, July 16.

WILLIAM W. RUCKS, M.D., Guthrie, O. T., formerly of Rome, Tenn., to Miss Martha Gibson, Nashville, July 16.

Deaths and Obituaries.

George A. Blanchard, M.D., University of Pennsylvania, Philadelphia, 1895, who served as assistant surgeon in the Thirteenth Pennsylvania Infantry, U. S. V., during the Spanish-American war, died at his home in Scranton, Pa., July 24, after an illness of three weeks, from typhoid fever, aged 35.

James H. Southall, M.D., University of Louisiana, New Orleans, 1861, died at his home in Little Rock, from cancer of the tongue, July 22. He was a member of the American Medical Association, and formerly held the chair of theory and practice of medicine in the University of Arkansas.

Joseph R. Caldwell, M.D., University of Pennsylvania, Philadelphia, 1867, late state quarantine physician at Marcus Hook, Pa., died, July 21, in Upper Chichester Township, after a long illness. He was a member of the American Medical Association.

George D. Ramsey, M.D., Jefferson Medical College, Philadelphia, 1852, a veteran of the Mexican war and a pioneer physician of Illinois, died at his home in Xenia, July 18, aged 77. He was formerly a member of the Illinois State Legislature.

Washington B. Remington, M.D., Philadelphia University of Medicine and Surgery (now extinct), 1871, died suddenly at Rochester, N. Y., July 19, aged 57. He was a veteran of the civil war, having served in the 138th New York Volunteers.

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Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Treatment of Gastro-Intestinal Disturbance in Infancy.

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Dr. H. S. Baketel, of Melrose, Mass., in an article in *Can. Jour. of Med. and Surgery*, states that there are three well-defined classes to be observed in the summer diarrhea of children, namely, catarrhal enteritis, entero-colitis and cholera infantum, named in the order of their frequency.

The characteristic feature of the first class is marked looseness of the bowels, accompanied by fever, pain and localized tenderness. The treatment consists in the administration of oleum ricini, to which laudanum is added to prevent griping, and sodium bicarbonate to counteract the acidity. The diet is milk and lime-water. He employs the following mixture in such cases:

℞.	Tinct. opii deod.	gtt. i		06
	Bismuthi subnit.	gr. v		30
	Mist. cretæ	ʒi	4	
	Essentiæ pepsini	gtt. x		66

M. Sig.: One such dose every four hours.

The symptoms of the second class were anorexia, fever, nausea, vomiting with greenish semifluid stools. Along with careful diet he gave the following:

℞.	Tinct. opii camph.	ʒiii	12
	Tinct. catechu comp.	ʒiv	16
	Mist. cretæ	℥i	32

M. Sig.: One teaspoonful every two hours.

In the last class the colon was flushed and irrigation repeated every two hours until the food flakes and mucus had entirely disappeared and clear fluid shown. Food was prohibited, small doses of protonuclein being administered every two hours in brandied water, and the following prescription used:

℞.	Acidi sulph. arom.	gtt. xxx	2	
	Tinct. opii camph.	m. viii		50
	Spts. chloroformi	gtt. xlviii	3	10
	Syrupi zingiberis, q. s. ad	℥iii	96	

M. Sig.: One teaspoonful every two hours.

Dr. J. D. Windle, in the *Clin. Jour.*, states that thirst is an important factor to be observed in the treatment of summer diarrhea of infants. He explains that the amount of water lost in the stools and by vomiting and perspiration is out of all proportion to that taken in; in many cases none is absorbed, vomiting being constant. The excess, then, must come from the blood. Thirst, therefore, is the cause of restlessness and moaning—symptoms which are very frequently misinterpreted as due to pain. The vital indication in the treatment, then, is to supply water, which relieves the most urgent symptom—thirst—and it is quickly absorbed, rapidly raises blood pressure and gives vigor to the heart. He summarizes by stating that in the severe cases all food should be stopped; give boiled cold water as often and as much as the child will take. The exclusive water diet may be continued with perfect safety for forty-eight hours, but it is rare that the vomiting and diarrhea will not stop within twelve hours. Tepid sponging for the fever, hot dry packs if there is collapse, and linseed poultices to cover the abdomen if there is pain.

In an article in the *Miss. Med. Rec.* the following outline of treatment is given: 1. Adopt the hygienic treatment, which consists in proper care of the bottles if used, boiling them in a soda solution for at least two hours. If breast-fed instruct the mother not to wean the infant in hot months. The nursing should be at regular intervals; give the child all the boiled water it will drink and keep it in the open air as much as possible. 2. The diet should be dropped for twenty-four hours and the bowels thoroughly cleansed out either with mild mercurous chlorid or oleum ricini. Flush out the colon twice a day with tepid water prepared as follows: Water one quart; sodium bicarbonate and sodium chlorid, of each one teaspoonful. This is cooling to the mucous membrane and healing. It neutralizes also any acid secretions present. After twenty-four hours, if the fever has disappeared and the child shows improvement, a teaspoonful of oatmeal boiled in one quart of water for an hour and strained and sweetened with a half teaspoonful of extract of malt may be used. In weak children beef tea and chicken broth may be used after forty-eight hours. When there is considerable pain present, small doses of tincture of hyoscyomus is of great service as follows:

℞.	Vini ipecac.			
	Tinct. mucis vom. āā	m. xx	1	33
	Ext. hydrastis flu.	ʒiss	6	
	Tinct. hyoscyami	ʒii	8	
	Elix. lactopeptin cum bismutho, q. s. ad.	℥ii	64	

M. Sig.: One-half teaspoonful after each feeding.

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the cells of the blood forming organs, while the sluggish circulation is roused to new activity.

Curability of Leprosy.—Ehlers states in the new international periodical *Lepra*, 1, 4 to 6, that he found two cases of complete, spontaneous recovery in his study of leprosy on the island of Crete. Danielssen and Lie have reported thirty permanently cured in the course of their long experience at the Bergen leper hospital. Ehlers has been investigating the Guber springs at Srebrenitza, Bosnia, which for ages have had the reputation of being a cure for leprosy. He is amazed and delighted at their unmistakable curative influence. The ulcerations healed over and the nodules and all symptoms disappeared under a course of these waters, internal and external. Glueck of Serajevo also describes a series of similarly successful results of the treatment of leprosy at the Guber springs.

Alcohol Fomentations in Pleurisy with Effusion and Arthritis.—The stimulation of the natural recuperative forces by the local, prolonged application of alcohol has been found extremely beneficial in pleurisy with effusion, articular rheumatism and also in acute gout. Burwinkel reports in the *Allg. Med. Centztg.* of June 1, the application of an alcohol compress over night banished the pain in a peculiarly severe and rebellious case of articular rheumatism. A pleuritic effusion which had persisted unmodified by any measures, rapidly subsided after four applications of alcohol for two hours each. The relief obtained in two cases of gout surpassed that secured by other measures in years of experience. He describes several other cases benefited in the same way.

The Three Hypertensions.—Huchard has recently been calling attention to the three hypertensions—the arterial, the pulmonary and the portal. The arterial is the condition preceding sclerosis, the only manifestation being the increased arterial pressure. The Journal has previously cited his views in regard to the necessity of energetic treatment of this antesclerosis. Pulmonary hypertension occurs in gastric affections and in the mitral stenosis of arteriosclerosis. The chief symptom is palpitating arrythmia, aggravated by digitalis. The third hypertension is the portal stasis or abdominal plethora, the frequent cause of enlargement of the liver, of intestinal disturbances, recurring bronchitis, torpid kidneys, hemorrhoids, obesity, etc. The portal stasis immobilizes a large amount of blood in the abdomen and thus entails various symptoms from the resulting anemia, arterial hypotension and auto-intoxication from the hepatic insufficiency. It is also one of the principal factors of the disturbances of the menopause and of obesity from anemia.

Married.

Mayer Shoyer, M.D., Lawrence, Kas., to Miss Edna Denton, Leavenworth, July 18.

Daniel E. Eiselin, M.D., to Miss Mabel E. Brown, both of Shortsville, N. Y., July 18.

Eugene Worthen, M.D., to Miss Jessie B. Davison, both of Holderness, N. H., July 12.

Thomas E. Macauley, M.D., Gilberts, Ill., to Miss Amanda A. Swanson, Genoa, Ill., July 17.

George D. Brinkman, M.D., Springfield, Ohio, to Miss Anna Masefield, Columbus, Ohio, July 16.

William W. Rucks, M.D., Guthrie, O. T., formerly of Rome, Tenn., to Miss Martha Gibson, Nashville, July 16.

Deaths and Obituaries.

George A. Blanchard, M.D., University of Pennsylvania, Philadelphia, 1895, who served as assistant surgeon in the Thirteenth Pennsylvania Infantry, U. S. V., during the Spanish-American war, died at his home in Scranton, Pa., July 24, after an illness of three weeks, from typhoid fever, aged 35.

James H. Southall, M.D., University of Louisiana, New Orleans, 1861, died at his home in Little Rock, from cancer of the tongue, July 22. He was a member of the American Medical Association, and formerly held the chair of theory and practice of medicine in the University of Arkansas.

Joseph R. Caldwell, M.D., University of Pennsylvania, Philadelphia, 1867, late state quarantine physician at Marcus Hook, Pa., died, July 21, in Upper Chichester Township, after a long illness. He was a member of the American Medical Association.

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	Mist. cretæ	ʒi	4	
	Essentiæ pepsini	gtt. x		66

M. Sig.: One such dose every four hours.

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℞.	Vini ipecac.			
	Tinct. mucis vom. āā	m. xx	1	33
	Ext. hydrastis flu.	ʒiss	6	
	Tinct. hyoscyami	ʒii	8	
	Elix. lactopeptin cum bismutho, q. s. ad.	℥ii	64	

M. Sig.: One-half teaspoonful after each feeding.

In cholera infantum the first item in the treatment is to empty the bowel. A hot saline irrigation of the colon immediately and small doses of mild chlorid of mercury every half hour till two or three doses are taken and retained. Follow it in four hours with castor oil in quantity sufficient to sweep out the bowel. If the collapse is great an injection of normal saline solution into the cellular tissue of the buttocks is often of service. In treating cholera infantum always remember that we are treating a poisoning of the system and bend every effort to rid the system of all toxic substances and maintain the strength of the child.

W. C. Hollopeter, of Philadelphia, in an article in the *Internat. Med. Mag.*, states that, in the treatment of the febrile stage of gastro-intestinal disorders in children, the feverish stage can be best managed by hydrotherapy, by intestinal antiseptics and by rest. First empty the stomach if it has not already been accomplished and then give slight enema by the use of glycerin and water, a teaspoonful of the former to a tablespoonful of warm water; after this, a high enema of an alkaline solution. This is to be followed by small and repeated doses of calomel until the characteristic stool is found, succeeded then by a dose of oleum ricini. As an intestinal antiseptic, the following is preferred by Dr. Hollopeter:

℞.	Bismuthi subnit.	gr. ii		12
	Salol	gr. ss		03
	Pulv. arom.	gr. ss		03
	Sacch. lactis	gr. i		06

M. Ft. Chart. No. i. Sig.: To be given dry on the tongue every two hours, or with every movement.

After thorough sterilization of the intestinal tract he observes the feeding, which consists in complete withdrawal of milk and solids and the substitution of albumin water or gum-water. He does not favor the use of meat juice until all fever has disappeared and the temperature has remained normal for *at least four days.*

Dr. W. Blair Stewart, in the same journal recommends the following prescriptions in obstinate cases of cholera infantum where there is obstinate nausea and vomiting:

℞.	Hydrarg. chloridi mitis	gr. 1/10		006
	Pulv. ipecac. et opii	gr. 1/10		006
	Bismuthi subgallati	gr. i		06

M. Ft. Chart. No. i. Sig.: One every half hour.

If this fails he advises as follows:

℞.	Bismuthi subgal.	gr. xv	1	
	Glycerol. acid. carbol.	gtt. xii		75
	Spts. chloroformi	ʒi	4	
	Elix. lactopeptin q. s. ad	℥ii	64	

M. Sig.: One teaspoonful every half to two hours.

If the case is a mild one, the following is recommended as an antiseptic and anodyne:

℞.	Bismuthi subnit.	gr. i		06
	Zinci sulphocarbol.	gr. ss		03
	Pulv. opii et ipecac.	gr. ¼		015
	Sacch. lactis	gr. i		06

M. Ft. Chart. No. i. Sig.: One such powder every two hours.

Hirst of Philadelphia recommends in the colic of the newborn, careful attention to diet. Pepsin grain, one in a teaspoonful of hot water may be given, with a few drops of brandy added. When diarrhea is present, and the movements are frequent and watery, draining the child's strength, it may be checked with the following:

℞.	Acidi sulph. arom.			
	Tinct. opii camph. āā	gtt. iv		25

M. *Sig.: At one dose, not to be repeated.*

In nurslings the following is recommended to check the diarrhea:

℞.	Tannalbin	ʒii	8	
	Spts. vini gallici	ʒii	8	
	Syrupi	ʒiv	16	
	Aq. destil. q. s. ad	℥ii	64	

M. Sig.: One teaspoonful four to six times a day.

The following is recommended in diarrhea of older children:

℞.	Bismuthi subnitratis	ʒii	8	
	Syrupi feniculi	ʒvi	24	
	Aq. destil. q. s. ad	℥iii	96	

M. Sig.: One teaspoonful every one or two hours.

Resorcin is a splendid intestinal antiseptic, and admirable results may be obtained in combination with a bismuth salt: salt:

℞.	Resorcin	gr. xx-xxiv	1	33-1.66
	Bismuthi subnit.	ʒi	4	
	Aq. destil q. s. ad	℥ii	64	

M. Sig.: Shake; one teaspoonful every three hours.

H. C. Hazen, of New York, states that tonics are nearly always indicated, and recommends the syrup of ferric iodid as the best of all forms of iron tonics for children, as it produces fewer unpleasant effects than any other. It should be given in from two to five minim doses to a child of 2 years. The tincture of nux vomica for older children is valuable in these cases of malnutrition with poor appetite and sluggish bowels, being best given after meals in two minim doses to children of three years or older.

Dr. A. D. Blackader, of Montreal, states that all intestinal antiseptics that we are acquainted with, give us but a modicum of assistance in this disorder, and their use is not unassociated with a tendency to depress the heart and circulation, an action which we are especially anxious to avoid. Alcohol, as a heart stimulant, is of much value and is the best in the acute diarrheas of children. Used in moderate quantities it improves digestion, stimulates absorption and is to some extent a food.

Medicolegal.

What a Dying Declaration Is Admissible to Show.—The Court of Criminal Appeals of Texas says, in Medina vs. State, that it understands the rule to be that dying declarations relate only to the res gestæ or essential circumstances of a homicide. That is, the statements must be confined to what actually transpired at the place of the killing—i. e., who were the actors, where it occurred, the position of persons, what was said by the parties, the instrument used, and how the homicide was committed. A dying declaration is admissible to show all the facts immediately connected with the homicide to which a witness, were he present, could testify. This would exclude narratives of past transactions and opinions or mere conclusions of the declarant.

Twenty Thousand Dollars for Injuries to Child.—The second appellate division of the Supreme Court of New York holds, in the case of Lacs vs. James Everard's Breweries, that a verdict for $20,000 damages can not be said to be excessive where a child 3 years of age was run over by a team attached to a wagon, and was so injured that he must go through life with one arm, at least, completely paralyzed and gradually shrinking away, while it was by no means certain that he would ever recover the use of his legs to any great extent, and it was reasonable to conclude that his mental faculties were permanently impaired, the evidence of the physicians leading to the conclusion that he was a physical wreck, and that this defect extended to his mental capabilities, likely to result in making him a constant source of expense, with very little hope that he would ever be of use to himself in providing for his necessities.

A Libelous and Not Privileged Communication.—The Supreme Court of Iowa says that the conclusion was fairly warranted, in the case of Hollenbeck vs. Ristine, that the surgeons of a street railway company, incensed at the conduct of a conductor with regard to the settlement of a bill of $15, brought their complaint to the notice of the president of the street railway company, either as a means of inducing the conductor to pay the debt, or for the purpose of causing his discharge, or both; and that the president, preferring to act upon written complaint, asked one of the members of the firm to put it in writing. This the doctor did, stating that for some five years the conductor had owed them a bill for professional services rendered his family in the way of consultation, and, "having no other defense," when finally being sued, "he cowardly slinks behind that of statutory limitation," and that they would prefer not to be connected in an official capacity with a corporation giving employment to men of this character, especially when permitted to occupy positions of trust. And the court thinks it clear that the conductor was discharged because of this communication. Nor does it consider the communication privileged. The result is that it affirms a judgment for $683.33 damages in favor of the conductor and against the writer of the letter.

Police Power to Regulate Practice of Medicine.—The Supreme Court of Michigan holds constitutional, in the case of

People vs. Reetz, Act No. 237 of the Public Acts of Michigan of 1899, entitled "An act to provide for the examination, regulation, licensing and registration of physicians and surgeons, and for the punishment of offenders against this act, and to repeal acts and parts of acts in conflict therewith." It says that the first act passed by the legislature of Michigan to regulate the practice of medicine and surgery was Act No. 167, Public Acts of 1883. This was amended by Act No. 268, Public Acts of 1887. Then followed the act of 1899, covering the entire subject, and providing for a board of examiners. The act of 1899, it goes on to say, is not different in principle from the other acts. If the act of 1883 was valid, then the act of 1899 is valid. And so it holds it. But it was further argued that such legislation is an interference with the inalienable right of a citizen when ill to employ anybody he chooses as his physician. The court's answer is that this contention is not supported by authority or reason. The practice of medicine affects the public health, and it is clearly within the police power of the state to provide that those dealing with disease shall be amply qualified to do so, so far as human experience and education may qualify them. If this contention be adopted, then the law providing for the admission of attorneys to practice law is unconstitutional and void. This legislation has been almost universally sustained by the courts of other states, and the Supreme Court of the United States.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, July 18.

1 *The Alleged Increase of Cancer in Massachusetts. William F. Whitney.
2 *The Clinical Value of Some of the Newer Hypnotics. Albert E. Brownrigg.
3 Case Illustrating Minor Surgery of the Kidney. John B. Blake.
4 *Advantages of Sanatorium Treatment of Pulmonary Tuberculosis. Henri T. Fontaine.
5 Ovarian Cyst with Twisted Pedicle: Acute Symptoms; Operation; Recovery. Charles L. Scudder.

New York Medical Journal, July 20.

6 *Cyst of the Omentum. A. Jacobi.
7 *On the Home Treatment of Pulmonary Tuberculosis. Leonard Weber.
8 *Some Remarks on Tetanus. Fielding Lewis Taylor.
9 *Common Law Rights and the Physician's Prescription. J. Wilkinson Jervey.
10 A Unique Case of Dupuytren's Contraction; Operation by the Open Method. Frank E. Peckham.
11 A Case of Traumatic Rupture of the Intestine. Frederick T. Wright.

Medical Record (N. Y.), June 20.

12 *The Suture of Wounds of Large Blood Vessels, with Report of a Case of Recovery After Suture of a Wound of the Axillary Artery. A. E. Halstead.
13 *Clinical Observations on Syphilis. J. A. Fordyce.
14 Headaches. H. H. Seabrook.
15 The Tampon in Gynecologic Therapy. Maxwell Benjamin.
16 *Latent Pulmonary Tuberculosis. Chas. R. Upson.
17 *Mediate Palpation. E. W. Whitney.

Philadelphia Medical Journal, July 20.

18 Spastic Ileus. (To be continued.) Edward Quintard.
19 *A New Method of Making Tannin Available as an Intestinal Astringent. Albert C. Barnes and H. Hille.
20 Some Observations Respecting the Value of the Present Methods of Medical Education. Augustus P. Clarke.
21 A Few Interesting Obstetrical Experiences. J. Thompson Schell.
22 Photo-Mechanical Reproduction. (Continued.) B. H. Buxton.

Cincinnati Lancet-Clinic, July 20.

23 Christian Science. H. V. Sweringen.
24 Address Delivered at Opening of Training School for Nurses of Speers Memorial Hospital, Dayton, Ky. J. O. Jenkins.
25 One Treatment for Gonorrhea. Clarence Martin.

American Medicine (Philadelphia), July 20.

26 A Review of the Progress of Therapeutics for the Preceding Twelve Months. Reynold W. Wilcox.
27 *Pneumotomy for Abscess of the Lung, with Exhibition of Patient. W. Joseph Hearn.
28 *On the Evils Arising from the Failure to Recognize the True Nature of Neurasthenia, and Some Causes of This Failure. W. W. Johnston.
29 *Anesthetization as a Specialty: Its Treatment and Future. S. Ormond Goldan.
30 The Relation of Pharmacists to Physician and the Relation of Pharmacy to Materia Medica and Drug Therapeutics. F. E. Stewart.
31 Foreign Bodies in the Rectum, with Report of a Case. Lewis H. Adler, Jr.
32 Removal of Ovarian Cyst, Broad Ligament Cyst and Appendix at the Second Month of Pregnancy—Delivery at Term. Maurice Kahn.

Medical News (N. Y.), July 20.

33 *A Study of Sixteen Hundred and Fifty Blood Examinations for the Widal Reaction with Special Reference to So-called Partial Reactions. Robert J. Wilson.
34 *A New Method of Determining Approximately the Amount of Hydrochloric Acid in the Gastric Contents. Max Einhorn.
35 Local Treatment of Female Diseases; Its Abuses. A. L. Beahan.
36 Disinfection Within and Without the Body in Diphtheria. M. A. Veeder.
37 Cerebral Apoplexy: Its Relation to Testamentary Capacity. Charles Schram.
38 Surgical Diagnosis. James J. McKone.
39 *Static Electricity in the Treatment of Sprain. Leonard C. Stanford.

St. Louis Medical Review, July 20.

40 The Epidemic of So-called "Smallpox." J. D. Brummall.
41 Speech: Its Development and Some Impediments. G. A. Roberts.

Virginia Medical Semi-Monthly (Richmond), July 12.

42 New Findings in Ophthalmology. E. H. Hazen.
43 *The Relation of Pelvic Diseases to Insanity. John C. Doolittle.
44 Coccygodynia—Case and Specimen. A. R. Shands.
45 Europhen in the Treatment of Cystitis and Urethritis. C. W. Canan.

Pennsylvania Medical Journal (Pittsburg), June.

46 The Duties of Individual Members to Their County Societies. Joseph M. Corson.
47 The Pupil in Health and Disease. E. D. Payne.
48 The Needs of a Live Medical Society. Francis Schill, Jr.
49 Two Autopsies: 1. Cancer of Peritoneum. 2. Tubercle of Peritoneum. Duration of First Case Nine Months; of the Second Case, Three Months. I. H. Betz.
50 The Pathology of Gastric Ulcers. Jos. B. Johnson.
51 Gonorrheal Pyelitis. Report of a Case. W. L. Atlee.
52 Home Treatment of Phthisis. Guy Hinsdale.
53 Castration by Gangrenous Process Following Injury: Recovery. W. V. Riddle.
54 Some Suggestions for the Treatment of Compound Fractures of the Extremities. L. Le Moyne.
55 Sanitation and Prevention of Tuberculois. W. H. Seibert.

Chicago Medical Recorder, July.

56 Chlorosis, Its Diagnosis and Treatment, and Its Relation to Tuberculosis and to Round Ulcer of the Stomach. Gustav Fütterer.
57 *Hydriatics in the Treatment of Chlorosis. G. W. McCaskey.
58 Chlorosis and Metabolism. Fenton B. Turck.
59 Report of a Case of Removal of the Superior Cervical Sympathetic Ganglion for Glaucoma. H. W. Woodruff.
60 Removal of a Piece of Steel from the Interior of the Eye with the Giant Magnet. William A. Mann.
61 Injury to the Eyeball. Thomas Faith.

Journal of Nervous and Mental Diseases (Nyack, N. Y.), July.

62 President's Address, American Neurological Association. G. L. Walton.
63 A Case of Simple Serous Cyst of the Cerebellum, with Autopsy. George W. Jacoby.
64 Binocular Hemianopsia and Optic Nerve Atrophy in a Case of Diabetes Mellitus. Howard F. Hansell.
65 Report of a Case of Melancholia Followed by Stupor Lasting Three Years and Eight Months; Recovery. Cecil MacCoy.
66 A Case of Peroneal Muscular Atrophy (Type Charcot-Marie). Charles G. Chaddock.

American Journal of Obstetrics (N. Y.), July.

67 *The Corset for Movable Kidney. A. Ernest Gallant.
68 *A New and Better Method of Opening and of Draining the Bladder in Women. Howard A. Kelly.
69 A Method of Operating Upon Intraligamentous and Subperitoneal Fibroids, Based upon the Establishment of Mobility and Symmetry. W. R. Pryor.
70 Recent Developments in Our Knowledge of Cancer of the Uterus. Emil Ries.
71 Pregnancies Following Ventral Fixations, One Ending in Rupture and One in Cesarean Section. Robert L. Dickinson.
72 *The Value of Hegar's Sign in Differentiating Pregnancy from Uterine Myoma. Robert G. LeConte.
73 Case of Gelatinous Disease of the Peritoneum, or Pseudomyxomatous Peritonitis. A. Lapthorn Smith.

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112 Report of Clinic. Wendell C. Phillips.
113 Report of Clinic. Dr. Chapin.

Denver Medical Times, July.

114 The Late Epidemic of Typhoid Fever in Fort Collins, Colo. P. J. McHugh.
115 *Persistent or Cyclic Albuminuria Without Clinical Symptoms. G. E. Tyler.
116 The Administration of Anesthetics in Renal Diseases. Wm. Dow.

St. Louis Medical and Surgical Journal, July.

117 Synopsis of Dr. J. Ashburton Thompson's Report of Plague in New South Wales. Albert S. Ashmead.
118 A Case of Myxedema. Cheves Bevill.
119 The Treatment of Nasal Catarrh by the General Practitioner. Eugene C. Underwood.
120 The Treatment of Diphtheria Other Than with Antitoxin. J. P. Crozer Griffith.
121 What Is Bovinine, Its Composition, and Method of Preparation?—An Independent Investigator's Discoveries. C. W. Canan.
122 General Considerations of Treatment of Placenta Previa. Charles P. Noble.

Woman's Medical Journal (Toledo), May.

123 Hydatid Mole, with Report of a Case of Mola Hydatidosa Totalis. Elizabeth F. Kearney.
124 Association in Women of Pelvic and Hepatic Disease. Inez C. Philbrick.

Maryland Medical Journal (Baltimore), July.

125 *Osteitis Deformans. A. D. Atkinson.
126 Spontaneous Version of a Fetus with Hydroperitoneum Requiring an Operation Before Delivery Was Possible. L. George Taylor.

New York State Journal of Medicine (N. Y.), July.

127 *Acute Tuberculosis of the Mesenteric Lymph Glands. Maurice H. Richardson.
128 The Resources of Modern Minor Gynecology. Augustin H. Goelet.
129 General Septic Peritonitis. Irving S. Haynes.

New Orleans Medical and Surgical Journal, July.

130 Superstitions, Fads, Fetiches and Facts: A Retrospect and Forecast: the Lines on Which the Progress of the Future Must Be Worked Out. F. W. Parham.
131 The Blood in Syphilis, Before, During and After Treatment. L. H. Warner.
132 Observations on Scarlet Fever. Whyte G. Owen.
133 Acute Vitreous Phosphorus Poisoning with Suicidal Intent, Followed by Death in 144 Hours. L. J. Y. Genella.

Southern California Practitioner (Los Angeles), June.

134 Treatment of Hypertrophy of the Prostate Gland, by Ligature of Spermatic Cord. J. Ewing Mears.
135 Spinal Cocainization. C. Van Zaelenberg.
136 *Spinal Anesthesia. Louise H. Clarke.
137 *A Practical Method for Demonstrating Tubercle Bacilli When Associated with Influenza Bacilli. A. J. Comstock.
138 A Short Clinic on the Skin—Treatment of Eczema—A Difficult Case of Catheterization—The Use of the Sun's Rays in Diseases of the Skin. George E. Abbott.

Atlanta Journal-Record of Medicine, July.

139 Gonorrhea as a Social Problem. Drs. Childs and Champion.
140 Tincture of Yellow Jessamine in the Treatment of Spasms, Fevers, Nervous Affections, etc. N. F. Howard.
141 Some Remarks on the Treatment of Dysenteric Diarrhea. George Torian.
142 Albuminuria Without Manifest Organic Renal Lesions. W. A. Deas.

Medical Herald (St. Joseph, Mo.), July.

143 Puerperal Sepsis. Charles C. Allison.
144 *The Pathological Importance of Diseases of the Accessory Sinuses of the Nose. D. C. Bryant.
145 *Facial Paralysis. J. M. Aikin.
146 *A Plastic Operation for Pruritus Ani. H. P. Hamilton.
147 Compensation and Failure of Compensation in Heart Disease. Millard Langfeld.

Medical Times (N. Y.), June.

148 The Bearing of Alimentation on the Excretion of Acetone. F. Schuman-Leclercq.
149 Progress in Treatment of Typhoid Fever. H. P. Cook.
150 Ulcerations of the Rectum. Samuel G. Gant.
151 Congenital Dislocation of the Hip. A. M. Phelps.

July.

152 Practical Remarks on the Treatment of Specific Urethritis. L. J. Davis.
153 Acne Vulgaris. Ellice M. Alger.
154 Blindness from Habit, Amblyopia, Strabismus. Norbourne B. Jenkins.
155 Satyriasis: A Study in Medical Jurisprudence. N. E. Aronstam and L. J. Rosenberg.
156 Two Cases of Supposed Carcinoma of the Tonsils. William Cheatham.

New England Medical Journal (Danbury, Conn.), July.

157 *The Limitations of Surgery in the Treatment of Nervous and Mental Diseases. William B. Pritchard.
158 Gonococcal Auto-Reinfections of the Urethra. Ferd C. Valentine.
159 On the Diagnostic Test and Constitutional Treatment in Joint Injuries. Thomas H. Manley.
160 *Nutrition and Stimulation. I. N. Love.
161 An Ointment for Diseased Mucous Surfaces. A. S. MacDonell.

Carolina Medical Journal (Charlotte), June.

162 The Importance of an Early, Definite Diagnosis of Appendicitis. J. Ernest Stokes.

163 The Need for Greater Care in Making Examinations and in Sending Patients to the State Hospitals. Isaac M. Taylor.
164 Etiology and Treatment of Menorrhagia and Metrorrhagia. W. W. McKenzie.

AMERICAN.

1. **Cancer in Massachusetts.**—The Shattuck lecture by Wm. F. Whitney is an elaborate discussion of the studies of cancer with special relation to its increase in the state of Massachusetts and the author recapitulates the substance as follows: 1. If death from cancer should go on at the apparent geometrical rate of increase of the past fifty years, in two and a quarter centuries every person over 30 years would die from that disease. 2. This rate is probably only arithmetical at its worst. 3. The increase is probably due to better diagnosis and registration, and until the ratio of deaths over 30 years has reached 8 to 9 per cent., which is shown by autopsies to be the true rate for cancer, it is not justifiable to speak of the increase as inherent in the disease itself. 4. For purposes of comparison with other places or years, a "graphic picture," composed of both the rate and ratio curves, covering the period over 30 years, divided into decades, is the best. 5. Comparison with other states and countries shows the rate for Massachusetts to be about the same as theirs, with greater variation between the males and females than is the case in Austria, which is remarkable for the correspondence between the two sexes. 6. In the distribution in the New England States, there is no geographical feature that explains the slight variation, which is easily within the limits of better registration. 7. In the state itself there is a slight increase westward for groups of counties of the same density of population. The densest populated part of the state, apart from these, shows a little higher rate.

2. **Some Newer Hypnotics.**—The newer hypnotics here discussed are dormiol, which is a chemical compound of equal molecules of chloral and amylene hydrate; chloretone, and hedonal, a derivative of urethane. The author speaks highly of dormiol as a hypnotic producing quiet sleep for four or five hours. If the patients are awakened within that period they frequently show drowsiness, but after a satisfactory sleep no uncomfortable after-effects are observed so far as his experience goes. In some cases it seems that the dose had to be repeated, and he thinks it better to give a large single dose than several smaller ones. [The opinion given by the author in this regard would seem to indicate a little caution on the part of those using the drug, as idiosyncrasies might develop and as experience with it has not been as great as with some of the other hypnotics.] It is rapid in action, sleep generally occurring within one-half hour. In rare instances no effects whatever were obtained from its administration. He has used chloretone in 71 instances in which he studied its effect, and he thinks a larger dose is needed than is yet generally recommended. The duration of sleep seems to be longer and some patients complain of disagreeable subjective after-sensations. Its anesthetic and analgesic effects are peculiar to it, not being possessed by the other two hypnotics here studied. Hedonal is chemically methyl-propyl-carbinol-urethane, disagreeable to the taste, and is evidently a less effective hypnotic than the other two, though it does not appear to produce any depression or uncomfortable effects in the 35 cases tried. It is inapplicable, however, to other than the milder cases of insomnia.

4. **The Sanatorium Treatment of Tuberculosis.**—The advantages of the sanatorium treatment in pulmonary tuberculosis, as stated by Fontaine, are: The constant supervision by physician or trained attendant, regulated exercise, rest, etc.; the securing of fresh air; super-alimentation; rest cure; sanitary precautions and mental atmosphere. The patients who go there make it a business to get well and they help each other.

6.—See Abstract in The Journal, xxxvi, p. 1340.

7. **Tuberculosis.**—The home treatment of pulmonary phthisis forms the subject of Weber's article. In a case of fresh febrile tuberculous infection the following are the indications for treatment: 1. Put the patient to bed and keep him there until the thermometer shows practically normal temperature. Rest cure at the outset and repeated at intervals is needed, together with careful nursing of the patient, for success. 2. A well-ventilated and lighted room some distance above ground, arranged like an ordinary hospital private room, heated by an open fire place or grate-stove, with proper arrangements for the collection of sputa, etc. 3. Food, selected according to the cases, given every two or three hours in small quantities or in the shape of meals four times a day, as soon as the patient can take and digest them. That fat-producing materials should be largely taken is self-evident. In the acute febrile stage the patient is sponged with alcohol and water three times daily and when he has improved and become convalescent he is advised to take cold sponge baths every morning and later, with improvement, the douche or rain bath, beginning warm, and cooled. Short procedures and low temperature of the water are the essentials for successful hydrotherapy in these cases. 4. For keeping down the temperature in the early stages and at all times he prefers a combination of acetanilid, phenacetin, and antipyrin, 1 grain of the former to 3 each of the latter to be given when the temperature goes above 101 F. 5. For hemoptysis he advises placing the patient in bed with head elevated, ice on the chest, and to give a tablespoonful of table salt two or three times the first day and milk and water only for nourishment; control the cough with codein. From the second day on he gives fluid extract of arbor vitæ, 1 dram in a glass of water three times in twenty four hours, which remedy he learned to use from the late Dr. Loomis. 6. For the cough and irritability he uses a formula of chloroform water, 6 ounces; sodium bicarbonate, 1 dram; morphin sulphate, 1 grain, and cherry-laurel water, 1 dram. From 1 to 2 drams in an ounce of water every three hours. 7. After the acute symptoms have subsided creosote is prescribed. 8. In case of weak heart and poorly developed muscles, tonics such as strychnin, with or without digitalis, and with or without quinin in small doses should be given. 9. When the stage has been reached that the patient can be sent away from the city, he is advised to go to the uplands in the country, securing a light, airy house, avoiding wind and dust as much as possible. He does not think it advisable, however, to have a patient in delicate health sent a long distance away from home and be without a physician. 10. Popular education on the subject of tuberculosis is an essential measure and he thinks that it should be brought before the public in such a way that they can seek to have intelligent treatment in time. He can count 110 private patients treated as above described, about 50 of whom have been restored to health, 20 greatly improved, and only about 30 have died of consumption. He gives brief abstracts of a few of the cases.

8. **Tetanus.**—After reporting several cases, Taylor remarks generally upon the disease and its treatment. He thinks that the prophylactic use of tetanus antitoxin admits of little question, but after the disease has fairly begun the prognosis can not be said to be satisfactory, although it seems to have improved according to the statistics of Lambert since the use of antitoxin. In conclusion he mentions the Bacelli method with carbolic acid which is claimed to give remarkably good results in the hands of its originator and fairly good results under Tizzoni and Behring.

9. **The Physician's Prescription.**—The following is a summary of the common sense and legal status of the physician's prescription, so far as it has been defined, according to Jervey: 1. The patient has no legal nor other right to demand a written prescription or written directions from the physician. 2. It is right and wise that the druggist demand and procure from the physician his written orders for the compounding of prescriptions. 3. *The physician has the undoubted right to designate what pharmacist shall fill his prescription.* 4. The written prescription is simply an order from physician to pharmacist. It is, through courtesy, and by virtue of custom and convenience, handed to the patient for transmission; but the latter has not, *at any time*, the slightest right of possession in the instrument. 5. The druggist has at least the right of permanent guardianship (*perhaps of outright possession*) the prescription, and he must keep it on file for ref

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113 Report of Clinic. Dr. Chapin.

Denver Medical Times, July.

114 The Late Epidemic of Typhoid Fever in Fort Collins, Colo. P. J. McHugh.
115 *Persistent or Cyclic Albuminuria Without Clinical Symptoms. G. E. Tyler.
116 The Administration of Anesthetics in Renal Diseases. Wm. Dow.

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117 Synopsis of Dr. J. Ashburton Thompson's Report of *Plague in New South Wales*. Albert S. Ashmead.
118 A Case of Myxedema. Cheves Bevill.
119 The Treatment of Nasal Catarrh by the General Practitioner. Eugene C. Underwood.
120 The Treatment of Diphtheria Other Than with Antitoxin. J. P. Crozer Griffith.
121 What Is Bovinine, Its Composition, and Method of Preparation?—An Independent Investigator's Discoveries. C. W. Canan.
122 General Considerations of Treatment of Placenta Previa. Charles P. Noble.

Woman's Medical Journal (Toledo), May.

123 Hydatid Mole, with Report of a Case of Mola Hydatidosa Totalis. Elizabeth F. Kearney.
124 Association in Women of Pelvic and Hepatic Disease. Inez C. Philbrick.

Maryland Medical Journal (Baltimore), July.

125 *Osteitis Deformans. A. D. Atkinson.
126 Spontaneous Version of a Fetus with Hydroperitoneum Requiring an Operation Before Delivery Was Possible. L. George Taylor.

New York State Journal of Medicine (N. Y.), July.

127 *Acute Tuberculosis of the Mesenteric Lymph Glands. Maurice H. Richardson.
128 The Resources of Modern Minor Gynecology. Augustin H. Goelet.
129 General Septic Peritonitis. Irving S. Haynes.

New Orleans Medical and Surgical Journal, July.

130 Superstitions, Fads, *Fetiches and Facts*: A Retrospect and Forecast: the Lines on Which the Progress of the Future Must Be Worked Out. F. W. Parham.
131 The Blood in Syphilis, Before, During and After Treatment. L. H. Warner.
132 Observations on Scarlet Fever. Whyte G. Owen.
133 Acute Vitreous Phosphorus Poisoning with Suicidal Intent. Followed by Death in 144 Hours. L. J. Y. Genella.

Southern California Practitioner (Los Angeles), June.

134 Treatment of Hypertrophy of the Prostate Gland, by Ligature of Spermatic Cord. J. Ewing Mears.
135 Spinal Cocainization. C. Van Zaelenberg.
136 *Spinal Anesthesia. Louise H. Clarke.
137 *A Practical Method for Demonstrating Tubercle Bacilli When Associated with Influenza Bacilli. A. J. Comstock.
138 A Short Clinic on the Skin—Treatment of Eczema—A Difficult Case of Catheterization—The Use of the Sun's Rays in Diseases of the Skin. George E. Abbott.

Atlanta Journal-Record of Medicine, Jul[illegible]

139 Gonorrhea as a Social Problem. Drs. Childs and Champion.
140 Tincture of Yellow Jessamine in the Treatment of Spasms, Fevers, Nervous Affections, etc. N. F. Howard.
141 Some Remarks on the Treatment of Dysenteric Diarrhea. George Torian.
142 Albuminuria Without Manifest Organic Renal Lesions. W. A. Deas.

Medical Herald (St. Joseph, Mo.), July.

143 Puerperal Sepsis. Charles C. Allison.
144 *The Pathological Importance of Diseases of the Accessory Sinuses of the Nose. D. C. Bryant.
145 *Facial Paralysis. J. M. Aikin.
146 *A Plastic Operation for Pruritus Ani. H. P. Hamilton.
147 Compensation and Failure of Compensation in Heart Disease. Millard Langfeld.

Medical Times (N. Y.), June.

148 The Bearing of Alimentation on the Excretion of Acetone. F. Schuman-Leclercq.
149 Progress in Treatment of Typhoid Fever. H. P. Cook.
150 Ulcerations of the Rectum. Samuel G. Gant.
151 Congenital Dislocation of the Hip. A. M. Phelps.

July.

152 Practical Remarks on the Treatment of Specific Urethritis. L. J. Davis.
153 Acne Vulgaris. Ellice M. Alger.
154 Blindness from Habit, Amblyopia, Strabismus. Norbourne B. Jenkins.
155 Satyriasis: A Study in Medical Jurisprudence. N. E. Aronstam and L. J. Rosenberg.
156 Two Cases of Supposed Carcinoma of the Tonsils. William Cheatham.

New England Medical Journal (Danbury, Conn.), July.

157 *The Limitations of Surgery in the Treatment of Nervous and Mental Diseases. William B. Pritchard.
158 Gonococcal Auto-Reinfections of the Urethra. Ferd C. Valentine.
159 On the Diagnostic Test and Constitutional Treatment in Joint Injuries. Thomas H. Manley.
160 *Nutrition and Stimulation. I. N. Love.
161 An Ointment for Diseased Mucous Surfaces. A. S. MacDonell.

Carolina Medical Journal (Charlotte), June.

162 The Importance of an Early, Definite Diagnosis of Appendicitis. J. Ernest Stokes.

163 The Need for Greater Care in Making Examinations and in Sending Patients to the State Hospitals. Isaac M. Taylor.
164 Etiology and Treatment of Menorrhagia and Metrorrhagia. W. W. McKenzie.

AMERICAN.

1. **Cancer in Massachusetts.**—The Shattuck lecture by Wm. F. Whitney is an elaborate discussion of the studies of cancer with special relation to its increase in the state of Massachusetts and the author recapitulates the substance as follows: 1. If death from cancer should go on at the apparent geometrical rate of increase of the past fifty years, in two and a quarter centuries every person over 30 years would die from that disease. 2. This rate is probably only arithmetical at its worst. 3. The increase is probably due to better diagnosis and registration, and until the ratio of deaths over 30 years has reached 8 to 9 per cent., which is shown by autopsies to be the true rate for cancer, it is not justifiable to speak of the increase as inherent in the disease itself. 4. For purposes of comparison with other places or years, a "graphic picture," composed of both the rate and ratio curves, covering the period over 30 years, divided into decades, is the best. 5. Comparison with other states and countries shows the rate for Massachusetts to be about the same as theirs, with greater variation between the males and females than is the case in Austria, which is remarkable for the correspondence between the two sexes. 6. In the distribution in the New England States, there is no geographical feature that explains the slight variation, which is easily within the limits of better registration. 7. In the state itself there is a slight increase westward for groups of counties of the same density of population. The densest populated part of the state, apart from these, shows a little higher rate.

2. **Some Newer Hypnotics.**—The newer hypnotics here discussed are dormiol, which is a chemical compound of equal molecules of chloral and amylene hydrate; chloretone, and hedonal, a derivative of urethane. The author speaks highly of dormiol as a hypnotic producing quiet sleep for four or five hours. If the patients are awakened within that period they frequently show drowsiness, but after a satisfactory sleep no uncomfortable after-effects are observed so far as his experience goes. In some cases it seems that the dose had to be repeated, and he thinks it better to give a large single dose than several smaller ones. [The opinion given by the author in this regard would seem to indicate a little caution on the part of those using the drug, as idiosyncrasies might develop and as experience with it has not been as great as with some of the other hypnotics.] It is rapid in action, sleep generally occurring within one-half hour. In rare instances no effects whatever were obtained from its administration. He has used chloretone in 71 instances in which he studied its effect, and he thinks a larger dose is needed than is yet generally recommended. The duration of sleep seems to be longer and some patients complain of disagreeable subjective after-sensations. Its anesthetic and analgesic effects are peculiar to it, not being possessed by the other two hypnotics here studied. Hedonal is chemically methyl-propyl-carbinol-urethane, disagreeable to the taste, and is evidently a less effective hypnotic than the other two, though it does not appear to produce any depression or uncomfortable effects in the 35 cases tried. It is inapplicable, however, to other than the milder cases of insomnia.

4. **The Sanatorium Treatment of Tuberculosis.**—The advantages of the sanatorium treatment in pulmonary tuberculosis, as stated by Fontaine, are: The constant supervision by physician or trained attendant, regulated exercise, rest, etc.; the securing of fresh air; super-alimentation; rest cure; sanitary precautions and mental atmosphere. The patients who go there make it a business to get well and they help each other.

6.—See Abstract in The Journal, xxxvi, p. 1340.

7. **Tuberculosis.**—The home treatment of pulmonary phthisis forms the subject of Weber's article. In a case of fresh febrile tuberculous infection the following are the indications for treatment: 1. Put the patient to bed and keep him there until the thermometer shows practically normal temperature. Rest cure at the outset and repeated at intervals is needed, together with careful nursing of the patient, for success. 2. A well-ventilated and lighted room some distance above ground, arranged like an ordinary hospital private room, heated by an open fire place or grate-stove, with proper arrangements for the collection of sputa, etc. 3. Food, selected according to the cases, given every two or three hours in small quantities or in the shape of meals four times a day, as soon as the patient can take and digest them. That fat-producing materials should be largely taken is self-evident. In the acute febrile stage the patient is sponged with alcohol and water three times daily and when he has improved and become convalescent he is advised to take cold sponge baths every morning and later, with improvement, the douche or rain bath, beginning warm, and cooled. Short procedures and low temperature of the water are the essentials for successful hydrotherapy in these cases. 4. For keeping down the temperature in the early stages and at all times he prefers a combination of acetanilid, phenacetin, and antipyrin, 1 grain of the former to 3 each of the latter to be given when the temperature goes above 101 F. 5. For hemoptysis he advises placing the patient in bed with head elevated, ice on the chest, and to give a tablespoonful of table salt two or three times the first day and milk and water only for nourishment; control the cough with codein. From the second day on he gives fluid extract of arbor vitæ, 1 dram in a glass of water three times in twenty four hours, which remedy he learned to use from the late Dr. Loomis. 6. For the cough and irritability he uses a formula of chloroform water, 6 ounces; sodium bicarbonate, 1 dram; morphin sulphate, 1 grain, and cherry-laurel water, 1 dram. From 1 to 2 drams in an ounce of water every three hours. 7. After the acute symptoms have subsided creosote is prescribed. 8. In case of weak heart and poorly developed muscles, tonics such as strychnin, with or without digitalis, and with or without quinin in small doses should be given. 9. When the stage has been reached that the patient can be sent away from the city, he is advised to go to the uplands in the country, securing a light, airy house, avoiding wind and dust as much as possible. He does not think it advisable, however, to have a patient in delicate health sent a long distance away from home and be without a physician. 10. Popular education on the subject of tuberculosis is an essential measure and he thinks that it should be brought before the public in such a way that they can seek to have intelligent treatment in time. He can count 110 private patients treated as above described, about 50 of whom have been restored to health, 20 greatly improved, and only about 30 have died of consumption. He gives brief abstracts of a few of the cases.

8. **Tetanus.**—After reporting several cases, Taylor remarks generally upon the disease and its treatment. He thinks that the prophylactic use of tetanus antitoxin admits of little question, but after the disease has fairly begun the prognosis can not be said to be satisfactory, although it seems to have improved according to the statistics of Lambert since the use of antitoxin. In conclusion he mentions the Bacelli method with carbolic acid which is claimed to give remarkably good results in the hands of its originator and fairly good results under Tizzoni and Behring.

9. **The Physician's Prescription.**—The following is a summary of the common sense and legal status of the physician's prescription, so far as it has been defined, according to Jervey: 1. The patient has no legal nor other right to demand a written prescription or written directions from the physician. 2. It is right and wise that the druggist demand and procure from the physician his written orders for the compounding of prescriptions. 3. The physician has the undoubted right to designate what pharmacist shall fill his prescription. 4. The written prescription is simply an order from physician to pharmacist. It is, through courtesy, and by virtue of custom and convenience, handed to the patient for transmission; but the latter has not, at any time, the slightest right of possession in the instrument. 5. The druggist has at least the right of permanent guardianship (perhaps of outright possession) of the prescription, and he must keep it on file for reference and

for any form of proper investigation. 6. There can be no right, extenuation, or excuse for a copy of a prescription, with physician's name attached, to be taken by druggist, patient, or any one else, without the authority of the physician. 7. The careful physician should invariably retain a carbon-paper facsimile copy of every prescription he writes. 8. The druggist has a legal right to utilize any formula that is uncopyrighted that may fall into his hands, but he can not, unauthorized, use the name of its author in connection with it. In most states, however, statutes would bar his selling intoxicants or other poisons except by direct order of physicians. 9. If a druggist refills a prescription without the order of the physician who wrote it, he does so on his own responsibility, and he has no legal or moral right to leave or place the physician's name on the container.

12. **Suture of Wounds of Large Blood Vessels.**—Halstead reports a case of successful suture of the axillary artery, and reviews the literature of the subject, showing that with the exception of isolated cases in the past, as far back as 1762, little has been done until comparatively late years in this particular line. He mentions the technique and reports some experiments that he has made on dogs. He thinks in cases of longitudinal wounds of arteries it is best to use the continued catgut suture penetrating only two outer coats. After closure of the wound, an additional suture of the perivascular connective tissue may add strength to the union. In complete wounds or where more than one-half of the circumference has been divided, the best method is by invagination as practiced by Murphy, the proximal end being invaginated into the distal by two or three silk sutures, which are first fastened to the proximal end and are then passed through the walls of the distal end from within outward. Tying these sutures draws the proximal end into the distal. After this four or five interrupted sutures continuing only as far as the intima of the invaginated vessel are used to bind the two together. Septic wound conditions contraindicate the operation. For controlling the hemorrhage, temporary elastic constriction is best where it is possible; in other cases digital compression or hemostatic forceps with light flexible blades covered with rubber drainage tube have been used, though there is a possibility of injuring the vessel by them. Temporary ligation is dangerous. In the treatment of wounds of the arteries where there has been a loss of substance, it has been suggested by Payr that the opening be closed by a magnesium plate fastened between the adventitia and media. Gluck, in a wound of the common carotid of this kind where end-to-end union could not be obtained, closed the defect in the artery by suturing over it a flap taken from the internal jugular vein. In suture of any large blood vessels, the operation wound should be closed by buried sutures of catgut without drainage. The accurate coaptation of the wound will help the strength of the vascular suture.

13. **Syphilis.**—Fordyce remarks on cases of gangrene of the initial lesion, which he has observed, also other complications, and on the diagnosis between the specific eruption and those of other diseases, such as lichen planus, pemphigus, psoriasis, lepra, seborrhoic dermatitis, etc.

16. **Latent Pulmonary Tuberculosis.**—Upson calls attention to a summary of 197 cases of pulmonary tuberculosis which called for the treatment of other conditions, such as naso-pharyngeal catarrh, hypertrophic rhinitis, tonsillar hypertrophy, etc., the lung disorder not being suspected. In these cases 115 were females and 82 males. The family and personal histories were good in the majority. The home environment was satisfactory in 99. The greater number of the patients were factory operatives. In 125 cases the eye conditions were more or less noticeable, showing exaggerated brilliancy or dilated pupils. In 20 cases the pupils were unequally dilated. The physical signs were more or less prominent in the majority and in 118 cases there was a slight rise in temperature. All the symptoms are reviewed in detail and the author calls attention to the importance of noticing carefully such cases where there are symptoms of general malaise, loss of strength, appetite, weight, etc., to examine for the existence of pulmonary tubercular complications.

17. **Mediate Palpation.**—Whitney has used the phonendoscope to measure the vibratory thrills brought to our cognizance through the tactile sense. This method of examination, for which he suggests the name mediate palpation, gave such brilliant results in his hands that he thinks it is well to call the attention of the profession to the procedure. The method of use is as follows: The phonendoscope is placed upon the chest, as is usual for auscultation, and then after the rubber tubes are removed the palmar surface of the hand is laid upon it and receives the vibrations which have been reduplicated by passing through the instrument. Its action is akin to that of a sounding-board, delivering the result, however, to the sense of touch instead of to the auditory apparatus. One instrument can be shifted from one side to the other, or two can be used, one for each palm. Any good conductor of vibration may be used, but the phonendoscope does excellently, and if one has it, he need look no further at present, as it fulfills in this way a double office—namely, that of auscultation and mediate palpation.

19. **Tannin.**—Barnes and Hille have produced a tannin nucleo-proteid which gives off its tannin gradually, and is, therefore, of special advantage as an intestinal astringent. Only a small quantity comes in contact with any one portion of the intestinal mucous membrane, thus avoiding local irritation that might defeat the object of treatment. They experimented on calves suffering from diarrhea and found this to be very useful, and clinical trials now being conducted indicate that it is equally effective in the human being.

27.—See abstract in THE JOURNAL, xxxvi, p. 1583.

28. **Neurasthenia.**—Johnston utilizes the history of Charles Darwin as an illustration of the results of neglect of early neurasthenia and his great success in literature and science is, he thinks, largely attributable to the course followed in later life, probably under the direction of Sir Andrew Clark. He calls attention to the failure to apply for early treatment in these cases and the lack of appreciation of disease symptoms by young medical men.

29. **Anesthetization as a Specialty.**—Goldan pleads for a better recognition of importance of the function of the anesthetist and his better remuneration. He should not be considered as a mere satellite of the surgeon, but should be recognized as a factor of distinct importance in the operation, and a class of skilled anesthetists should be demanded and supplied.

33. **The Widal Reaction.**—Wilson studied this in over 1600 blood-examinations; "33 per cent. of the positive reactions occurred in the first week, 84 per cent. before the end of the second week, 16 per cent. in the third week, and 4 per cent. in the fourth week." So large a percentage occurring so early in the disease as the second week indicates that the blood examination is of material value to the physician. Of all the typhoid bloods where no reaction was obtained, all but 27 per cent. were seen before the tenth day of the disease. If second samples had been seen, he thinks the reaction probably would have been found. Lastly, only 7 per cent. of partial reactions are found in the typhoid infection of hospital cases, through partial reactions occur more frequently in tuberculosis and malaria than in typhoid. Thirteen different conditions were represented. The value of the partial reaction is nil, in his opinion, except as a suggestion of a second examination. He sums up the results of his study as follows: 1. That these cases where the Widal reaction has been present are only further evidence of its well-known practical value. 2. That the so-called partial reactions are valueless.

34. **Hydrochloric Acid Determination.**—A new method, here described by Einhorn, which he believes in exactness to be equal to that of Günzburg, is as follows: A minute quantity of stomach contents is placed by means of a glass rod upon a strip of dimethyl-amido-azo-benzol paper (one-half by eight centimeters). If the paper turns red one drop of the contents is diluted with two drops of water in a small porcelain dish. A glass rod is dipped into the mixture and the test paper again touched. If it still turns red, one or two more drops of water are

added and the procedure repeated as before. This is done until only a slightly red or almost no red color is produced by the mixture upon the test paper. In this way the amount of dilution required for a trace reaction with the test paper is determined. It is clear that the more HCl there is in the stomach-contents the more they can be diluted, still giving a trace reaction with the dimethyl-amido-azo-benzol paper. He considers this method of examination valuable: 1, in examination with the stomach-bucket or where from other causes only small quantities of gastric contents are at our disposition, and 2, in cases in which it is of importance to obtain at once an idea regarding the amount of acid, and the necessary solutions for titration are not at hand.

39. **Sprains.**—Stanford recommends the use of static electricity in the treatment of sprains, reporting briefly a number of cases. He thinks that for sprains with little or no effusion, such as ankle sprain, the spark affords a very satisfactory method of treatment, giving immediate relief, which lasts for from two to four hours, after which some reaction follows, depending upon the work put on the limb. Aside from immediate relief, there is marked permanent improvement in the majority of cases. In ordinary cases of sprained ankle, daily applications of the spark made for 5 to 7 days removed all lameness. Where effusion is present to any extent, as in synovitis of the knee, the spark, while it affords relief for a short time, seems to have little other effect. When, however, the effusion has been removed by other methods it is a valuable aid, stimulating and strengthening the weakened structures. In cases of long standing, the results are not quite so satisfactory as in acute sprains, but still they may be of use to a certain extent. Care should be used in the administration, as in one or two cases an unpleasant reaction followed.

43. **Pelvic Diseases and Insanity.**—Doolittle has examined 276 patients admitted within twenty-two months to the Iowa Hospital at Independence and reports the findings. In quite a large proportion there were remediable lesions and there was a positive heredity in 47 per cent. of the cases. In only a very small percentage could it be excluded, but a reliable history could not be obtained in the rest of the cases. The results of operative treatment are reported and the author concludes as follows: 1. Pelvic disease is often associated with mental disease, and may be a factor in its etiology, but is seldom, if ever, the sole cause of insanity. 2. Pelvic disease and menstrual disorders are not associated with any particular characteristic psychosis. 3. There is no apparent relation between the intensity of the mental disturbance and the severity and extent of the pelvic disease. 4. Pelvic diseases in insane women should receive the same treatment when practicable as in the sane, and for the same reasons. 5. Surgical operations on those of unstable and defective mental organization, and on those hereditarily predisposed, will usually result unfavorably and leave the patient in a worse mental condition than before the operation, and this is particularly true when there is no local pelvic disease. 6. The best results from surgical operations may be expected in the hysterical and those especially disturbed at the catamenia.

57. **Chlorosis.**—McCaskey recommends the use of hydrotherapy, especially the douche, but it is essential that the application of cold be preceded by the storage of heat, whereby the tonic effects of cold are obtained without undesirable depression or lowering of the tone. In average cases he has satisfied himself that the hot *douche mobile* of the French, followed by cold similarly applied, and gradual force of impact adapted to the physiologic state of the patient, improves cardiovascular tonicity, stimulates general innervation of all the organs and hastens the restoration of blood, to the normal state.

67. **Movable Kidney.**—Every physician should be acquainted, Gallant says, with the special symptoms of movable kidney. For routine work the hand is placed just below the hypochondium and the kidney is displaced by deep inspiration, held and palpated, and allowed to escape during expiration. In some cases the dorsal or upright inclined posture will be more satisfactory for bimanual examination. While a certain number are subjects for operation, 90 to 95 per cent. can be cured symptomatically by the corset and for this purpose one must be secured as long in front as can be worn to elevate and support the redundant abdominal walls and form at the waist line a shelf upon which the kidney may rest. The so-called straight front corset has given good results. It must not be less than two inches smaller than formerly worn, laced at the back from top to bottom with two flap laces as an open V to prevent cutting and chafing and must be laced very snugly from the lowest point to the waist line, loosely from the waist upward, while the patient is standing. Having thrown the corset around the waist she should lie down on the bed, draw up her knees, place her head upon a pillow to relax the abdomen and permit the viscera to gravitate upward toward the diaphragm, and while in this position fasten the corset. Before hooking, she must push the kidney into its nest under the edge of the ribs. This is a simple matter after it has once been learned. The last hook must be fastened first and so on from below upward. As each succeeding hook is secured, the redundant abdominal wall must be drawn within the corset. Any woman with nephroptosis must not be permitted to maintain the upright position without her corset. A corset applied in this way will retain a replaced kidney in a position from which it can not be dislodged downward, thus relieving the symptoms by supporting and elevating the lower abdominal wall; it will tend to prevent or overcome the effects of visceral ptosis; it will, with the kidney at rest, determine whether the symptoms are due to mobility of that organ or disease in adjacent structures and as the patient's condition improves and she puts on flesh, the kidney will descend less and less, and in some cases, freedom from symptoms has resulted; risks of operation, scars, afterpains, and failures are avoided. Operation is always available as a last resort if everything fails.

68. **Opening the Bladder.**—Kelly describes a new method of opening the bladder, which consists in putting the patient in the knee-chest position, elevating the posterior vaginal wall and introducing the catheter, allowing air to enter the bladder. A knife fixed at nearly a right angle to the handle is then passed through the vesico-vaginal septum, opening up the bladder into the vagina about 1.5 centimeters to the front of the cervix. The incision can be made any desired length. By putting the finger into the incision, the internal orifice of the urethra is located, guiding the knife as far forward as desirable. This can be done under cocain anesthesia, and in case of irritable urethra or other reasons for desirable drainage for a short period he introduces a mushroom catheter, leaving it in for a week or ten days. As soon as it is withdrawn, the wound heals spontaneously. The method is of great advantage to operations about the urethra and is the best for opening the bladder for removal of the vesical calculus. As soon as the stone is removed, the incision may be closed with the utmost ease and accuracy; with the patient in the same position.

72. **Hegar's Sign.**—LeConte has found Hegar's sign apparently reliable in differentiating myomata from pregnancy. In three cases the womb resembled pregnancy in appearance, except that compressibility of the lower uterine segment was absent. The absence of this sign permitted him to proceed with the operation with the utmost confidence. If the sign has value, it is of the highest importance; if it has not, his good fortune, he says, has been superior to his knowledge.

84. **Hydrotherapy.**—The stimulating effect of water is elaborated upon by Baruch, whose confidence in this agent has been gained after years of study and observation. The first diseases in which he mentions its use especially are phthisis and neurasthenia. In the former the use of douches and systematic hydrotherapic treatment often seem to be very effective. In neurasthenia he believes that the methodical employment of hydrotherapy in combination with proper diet and environment will work wonders in many cases. The most useful procedures are the dry pack, which consists in the snug wrapping of the patient in heavy woolen blankets for about an hour, followed by uncovering of successive parts of the trunk, then treated to a rapid and brisk rubbing with a bath glove or washrag squeezed out of water at 85 F. After drying and friction the

patient is sent into the air for general exercise. The process is repeated daily, the water temperature being reduced 2 or more degrees each day until 60 F. is reached. When the patient bears this well, he is subjected to more decided measures. Standing in water at 100 F., in a warm bathroom, the patient may be subjected to affusions from a foot-tub containing water at a temperature of 80 F., daily reducing it 2 or 3 degrees until the temperature of 60 F. is reached. Water is dipped and thrown with force on the back and shoulders with a long handled basin or large tin dipper. If this is done forcibly, followed by rapid drying and dressing and exercise, the patient will not be chilled. Every day larger quantities of water may be used, always avoiding chattering of the teeth and cyanosis. He thinks this method can be applied at home and that the stimulant arouses the depreciated neurons, increases the vascular activity of the brain and improves general and local nutrition. Those cases of neurasthenia in which insomnia is prominent are specially amenable to hydrotherapy judiciously added to treatment of the general condition. Diabetes is another disease in which he finds hydrotherapy of decided benefit He has frequently observed that strict dietetic rules may be relaxed if systematic exercise is added to the treatment of diabetes. Nervous dyspepsia, hysteria, obstinate neuralgia, sciatica, neuritis, lumbago and allied diseases are relieved by cold applications. Spasmodic and bronchial asthma which has resisted other treatment is remarkably relieved under hydrotherapy and we are aware of what has been done in the Nauheim method of treatment of cardiac disease. In angina pectoris, which is more often of the false than the true type, hydrotherapy has often relieved after failure of other methods employed by his colleagues and himself. In gouty rheumatism and lithæmic disease remarkable cures are effected by the judicious application of baths and douches under the direction of a skillful physician in watering places. Their treatment may be imitated at home. wherever douches under pressure of twenty to thirty pounds can be had. This treatment stimulates the emunctories, especially when combined with abundant and the methodical drinking of water. He has observed great relief in this type of patients and often complete restoration obtained under hot bath and douche and massage treatment at home. His deductions are from an experience of more than 100,000 recorded procedures in neurasthenia, hysteria, some of the psychoses, phthisis, gout, rheumatism, dyspepsia, cardiac diseases, sciatica and other neuralgias, obesity and neuritis. He cautions, however, against the empirical application of treatment or its use in unskilled hands. If water is to be a valuable remedy it must be only in the hands of the medical man; its theory and practice must be taught in our schools and its application in our hospitals.

90. **Epigastric Pain.**—The points to which special attention is called by Bettman are the part played by gall-stones in producing local pain, and he says it should be laid down as a clinical rule that cholelithiasis should be suspected whenever patients complain of special epigastric pain occurring several hours after eating and when a careful examination of the secretion or digestive function reveals no abnormality. He reports several cases which seem to him proof that the demonstrable absence of gastric lesions of tabes, severe paroxysmal gastric pain in the vast majority of cases indicates gall-stones. The relation of epigastric pain to spinal trouble is also mentioned. and he says that in a certain number of patients pressure against the anterior surface of the spine about an inch below the umbilicus produces a severe pain located in the epigastrium and radiating to the hypochondrium. Persistent epigastric pain may be produced by pelvic lesions and much more rarely by eye-strain. A very interesting form occurs in young chlorotic girls, who complain of symptoms suggesting gastric ulcer. The special features are the chlorotic background, absence of nausea or vomiting. localization in the median line. normal or diminished gastric acidity and tender spots, and most of all, the rapid disappearance of symptoms under treatment with iron and arsenic. Another form worth mentioning is that accompanying arteriosclerosis in elderly persons. coming on usually after meals when exercise is indulged in. It is not accompanied by local tenderness, heart disease or dyspnea, and the digestion is little if at all impaired. It does not affect the general health, but is simply an annoying symptom. Van Valzah and Nisbet ascribe it to the gastric localization of the arteriosclerosis and liken it to the ordinary muscle cramps of this condition. In conclusion, he says that we can not be too careful in estimating the significance of epigastric pain. In some cases it is associated with angina pectoris, and it may be the herald of severe or even fatal cardiac disease. Occasionally we locate in the stomach pains situated in the left lobe of the liver: we should be careful to study each case and determine its causation.

91. **Post-Influenzal Neuralgia.**—Aldrich quotes Clouston, Mills and Knapp as to the deleterious general effects of an epidemic of influenza, but especially considers the severe infectious manifestations that follow it, particularly neuralgia of the cranial nerves. He thinks that seven-tenths of the cases in the last ten or twelve years date the beginning of their trouble to an influenzal attack. The frequency of zoster both of the trunk and trigeminal region, occurring in la grippe, is also evidence of the vascular origin of many of the cranial and spinal affections following the disease. The treatment which he has found to cure many initial cases of trigeminal post-influenzal neuralgia is a combination of the castor oil and strychnia treatments. After thorough examination, if the case is found suitable, the patient receives an initial dose of castor oil, which is 1 ounce if opiates are not being taken and 2 if they are. A solution of nitrate of strychnia, 1 minim representing 1/200 of a grain, is given in doses of 20 minims four times a day, increasing 1 drop every twenty-four hours and is pushed until systemic effects are obtained. the oil being given daily. The patient should be unaware of the nature of the treatment. If the patient has been taking morphin, it should be tapered off. He finds this method specially calculated to cure post-influenzal neuralgia of the spinal or cranial nerves.

92. **Knee Symptoms from Foot Disorders.**—The summary of Freiberg's paper is: 1, that abnormal conditions of the foot may be the cause of pain in the knee with or without themselves showing any local subjective symptoms; 2, pronated and flatfoot being the most frequent cause of this character, it is possible for shortening of the calf-muscles to be the underlying cause of such knee pain in cases of contracted or pronated foot, and 3, the attachment of the calf-muscles to the knee capsule through the medium of the plantaris may serve to explain this phenomenon. He mentions in conclusion an article by Pal describing cases where he has been able to determine flat-foot as the cause of the symptom known as meralgia paresthetica.

95.—See abstract in The Journal, xxxv, p. 1050.

105. **The Economic Valuation of Vision.**—The authors show that a correct estimation of the effect of injuries to the visual apparatus upon the earning powers may be obtained by a simple mathematical calculation. The complete earning ability depends upon three factors: 1. The unimpaired functional power of the bodily organs. 2. The technical knowledge necessary for the carrying on of the vocation. 3. The ability to compete in the labor market. Normal physiologic vision consists of a series of different factors. i. e., the central acuity, visual field, light and color sense, adaptive faculty, muscular movements and cerebral processes all acting together to produce sight. Each of these numerals is given its specific and relative value in the equation. the whole sum equaling normal physiologic vision. Although the formula given is a rather heavy mathematical one, its handling is extremely easy, for we simply replace its several factors by the value of the function. Thus. if all be uninjured. the earning ability = 1. the valuations are very easily determined by looking at the tables which have been compiled by Würdemann and Magnus, or by estimation by a diagram; thus the calculation involves but a simple example in multiplication and takes but a few minutes' time. There is a considerable difference between the scientific definition of blindness and that of economic blindness. The highest and lowest points of scientific visual acuity do not correspond to those used in business; i. e., a day laborer may have his visual acuity reduced to as low as 50 per cent. of normal, yet be able

to continue his work just as well as before, but if it were reduced below 5 per cent. of normal, he would be unable to do any of his work; in the case of a skilled workman, the reduction to any marked extent would greatly interfere with the work and thus a skilled mechanic could not lose more than 25 per cent. of his visual acuity without economic damage, and if he should be reduced to 15 per cent. he could not do any of his work. From the results of experience and of mathematical calculation by means of this formula, it is clearly shown that in trades demanding high vision, a one-eyed person loses 30 per cent. of his earning ability for the first year after the accident and 20 per cent. thereafter; for the lower grades it is 27 per cent. for the first year and 18 per cent. thereafter. Where there is a gradual loss of sight in one eye following an accident, in trades requiring higher visual demands, the proportion is 21 per cent. and in professions with lower visual demands, 18 per cent. The question of claim for damages by reason of the loss of one eye through accident is exhaustively discussed as well as specific injuries affecting the visual field, color sense or causing weak vision in any way. Consideration is likewise given to weak vision existing before the accident. The economic damage to the individual from loss of vision through accidents, depends on the percentage of the loss of earning ability on the wages that the plaintiff has been earning and on the character of his work and his age. Taking these facts into consideration, and accepting certain wage standards and probable duration of working life and the percentage of economic damage as factors, the damage to the individual can be exactly shown in dollars and cents. The settlement of claims for damages should take this economic damage into consideration as the principal element for settlement. This, however, is only one of the legal factors involved. It should be modified according to American law by reduction being made in favor of the defendant in case of extenuating circumstances or contributory negligence and addition made thereto of actual expense incurred by the plaintiff during his illness and damages for pain and anguish suffered by reason thereof; the amount thereof must always be empirically estimated by the courts.

115. **Cyclic Albuminuria.**—This condition is noticed by Tyler, who finds it present mostly in young persons, especially in those of neurotic temperament and with poor digestive systems. The distinguishing feature is that albuminuria is present part of the twenty-four hours and absent the remainder of the time, usually being absent on rising and at bedtime and appearing during the day. The theories of the condition are discussed but not very well determined. The upright position appears to be the essential factor in the production of this symptom. Its diagnosis is important and the following factors are necessary: "1. The demonstration of a persistent intermittent albuminuria unaccompanied by casts or other evidence of renal disease. 2. The elimination of disease of other organs, especially of a left ventricular hypertrophy. In order to reach this diagnosis the separate urine of each micturition for the entire twenty-four hours must be examined, and this examination must be repeated several times. Extreme care must also be taken, by means of centrifugation, to prevent overlooking casts, and there must be the most painstaking systematic examination of the heart and other organs. If the urine is never entirely free from albumin there is structural disease." The condition is probably harmless, although some claim that it means ultimate organic change. Medicines seem to be ineffectual. It may be present for years and disappear without obvious cause. A well regulated life without excesses is probably the best treatment.

125. **Osteitis Deformans.**—After reporting a case and discussing the condition, Atkinson summarizes the more modern views of the disease, that it commences as a chronic rarifying osteitis in which the normal compact tissue becomes finally porous and fresh bone is formed beneath the periosteum, finally undergoing the sclerotic changes so well marked in the latter stages of the disease. He calls attention to the resemblance between rachitis and osteitis deformans and mentions cases which seem to indicate that the dividing line between the bone deformities of children and adults is not always marked, though the disease described under the title of osteitis deformans is really seen only during middle and advanced life.

127.—See abstract in THE JOURNAL, xxxv, p. 143.

136. **Spinal Anesthesia in Obstetrics.**—The following is the summary of Clark's article: "1. That the subarachnoidal injection of cocain during labor is not without danger to both mother and child. 2. That the essential points in the technique of the operation are the same as those taught by Prof. Tullier, absolute asepsis being the chief cornerstone. 3. That painless uterine contraction goes on, but that the loss of the force exerted by the contraction of the abdominal muscles delays the labor and instrumental delivery has frequently to be resorted to. 4. That in obstetrical practice, the headache and rise of temperature after the injection are as constant as in surgical cases, but the vomiting is more frequent. 5. That 'Explorations, versions, extractions, placental removal are readily done, but not with quite as great ease as under chloroform.' (Marx.) 6. That where the condition of the child or mother renders necessary the immediate use of forceps, or where manual dilation of the cervix is indicated, the results under spinal anesthesia have been most gratifying. 7. That, so far, there have been no unpleasant sequelæ following these injections noted. Finally, that the consensus of opinion at present is that spinal anesthesia in obstetrical practice will not take the place of chloroform or ether narcosis."

137. **Differentiation of Tubercle Bacilli.**—The method suggested by Comstock for differentiating tubercle from influenzal bacilli when both are combined in the same preparation are: "1. Thinly spread the suspected sputa, or other containing media, upon a cover-glass or slide. Allow it to become air-dried; then flame. Next apply Ziehl's solution, with the aid of heat, as for staining tubercle bacilli. Pass the preparation through 15 per cent. aqueous solution of nitric acid and wash in 60 per cent. alcohol. Rinse thoroughly in fresh water. Dry the preparation and then apply Loeffler's alkaline-methylene-blue, aided by heat, as Ziehl's solution was previously applied. Then wash thoroughly under a stream of fresh water. This will remove most of the stain from other elements in the sputa without danger of washing the fuchsin from the tubercle bacilli or the methylene-blue from the influenza bacilli. Lastly, dry the preparation and mount in balsam. The tubercle bacilli will retain a brilliant red color and the influenza bacilli will be stained blue. This method he claims to be original with himself.

144.—See abstract in THE JOURNAL, xxxvi, p. 982.

145.—Ibid.

146.—Ibid.

157.—See abstract in THE JOURNAL of July 13, ¶38, p. 145.

160.—This article appeared in THE JOURNAL, xxxvi, p. 537.

FOREIGN.

British Medical Journal, July 13.

On the Evolution of Myelopathic Albumosuria. T. R. BRADSHAW.—There is one point in the clinical history of this rare condition which, according to Bradshaw, has never before been determined, viz., the manner in which the albumose appears first in the urine. In all reported cases it has been present in large quantities, but it has never been ascertained whether it appears to begin in minimum quantities, and gradually increases or whether the maximum amount appears almost from the first. The possibility of the latter being the case is suggested by what we know of the onset of pancreatic diabetes. He has lately been consulted by a physician of eminence, a subject of this disorder, who has carefully observed his own case. The albumose was first observed in December, 1899, during an attack of mild pneumonia. The quantity was at that time minute, but has subsequently gone on, continually increasing and has reached a maximum of 10 parts per 1000. The case illustrates two important points, one of which is new: 1. The presence of the albumose in the urine is the earliest symptom of the disease, and may be observed for many months before there are any other indications of failing health, or any local signs of alterations in the skeleton. 2. If we may be permitted to generalize from the only case in which the point has been investigated, the albumose is first excreted in small amounts; but, owing to the fact that at this stage the subject of the disease does not suffer any inconvenience from it he is not likely to consult a medical practitioner, and so the urine is generally not examined until the albumose has risen to a large amount. Its early discovery in the present instance was doubtless due to the fact that its onset closely coincided in time with an acute illness, and that the subject of it was a member of our own profession.

On Some Cases of Hemorrhage into the Skin and Suprarenal Capsules. Percy S. Blaker and Bernard E. G. Bailey.—The authors report four cases of children who were taken suddenly ill with vomiting in the night, followed by diarrhea with subcutaneous hemorrhages and death within a comparatively short period—less than twenty-four hours. The postmortem examinations showed engorgement of the suprarenal bodies with hemorrhages. In two cases the blood from the unopened heart was examined bacteriologically, with negative results. The history throws no light on the causation of the disease, but the authors think the presence of hemorrhages under the skin and in the suprarenal capsules indicate some form of toxemia, and in the patients the similarity of symptoms and rapid and fatal termination indicate that the poisoning belongs to the same group as that in epidemic diarrhea and vomiting of children. In the latter, however, he has never met with the hemorrhagic conditions here observed and in three of the cases there was a hyperemic condition of Peyer's patches which is also absent in diarrhea. The question arises: What is the disease? They state the possibility of hemorrhagic smallpox of the fulminating variety. In one of these cases, however, the patient had two very good vaccination scars, and there was no history of smallpox or known source of contagion and no other cases followed. Infantile scurvy might suggest itself, yet there was no spongifying of the gums or tenderness of the limbs and the rapid course of the disease was against it. On the whole, they conclude that we have here a special disorder due to blood poisoning of some form, the nature of the poisoning being unknown. Reference is made to cases reported by Talbot, Andrews, Garrod, and Drysdale, apparently similar, with sudden onset, rapid fatal termination; but hemorrhages occurred in only two of them. Convulsions were prominent in the other two. The only morbid change found postmortem was hemorrhage of the suprarenal capsule, all the other organs being apparently healthy.

The Lancet, July 13.

Diagnosis and Treatment of Typhoid Fever. R. W. Marsden.—Marsden considers a recent acute illness commencing with lassitude, headache, chills, epistaxis, splenic enlargement, continuous pyrexia, rose spots, appearing in successive crops for several days, and lasting for three or four days with absence of leucocytosis and terminating by remissions, temperature gradually subsiding after seventeen or eighteen days, and accompanied by sudden profuse intestinal hemorrhage or symptoms of intestinal perforation, or further followed by a definite relapse; such a symptom-group may be with certainty diagnosed as typhoid. He lays stress on the serum diagnosis as important, considering the uncertainty of symptoms. In 209 out of 214 cases the blood examination was either in agreement or not at variance, but there are some possibilities of error, and he summarizes the Widal reaction as follows: A negative result, say at the end of the first week of illness, is against the diagnosis of enteric fever, while each succeeding negative result increases the doubt, so that if it is negative throughout the disease it is certainly something else than typhoid. In fact in all cases in which with approaching convalescence the serum reaction is still found negative, diagnosis of typhoid must be abandoned unless the physical signs and symptoms form such a group as he has before given. In all cases the diagnosis must be uncertain during the first week of illness. The only sign upon which absolute reliance can be placed is the appearance of the rose spots on several consecutive days, either during the primary attacks of a continuous fever at least seventeen or eighteen days in duration or during the relapse, though an otherwise similar attack accompanied by temporary enlargement of the spleen, or intestinal hemorrhage, etc., would require very clear bacteriologic evidence to prove its non-typhoid nature. As regards treatment, he favors the liquid diet in the beginning. The physical processes are so altered during the febrile state as to interfere with the proper digestion of other forms of food, and any other form of diet may irritate the ulcerated and catarrhal bowel. There are, however, many things which are more readily digested and assimilated than the precipitated casein of cow's milk. It is a matter of experience that in some cases of diarrhea the improvement is best obtained by altering the diet. The most constant objection urged is the danger of producing perforation by undigested particles, increasing the catarrhal state or mechanically causing rupture; this objection he considers comparatively slight. Another objection is the possibility of production of a temporary fever or either a definite relapse; this he also doubts. A more probable supposition is the increasing supply of bile by the administration of solid foods in such a way as to increase the number of bacilli poured into the intestines; but this is purely theoretical. As regards treatment, the use of baths with altered dietary is emphasized. He thinks that these are important factors in reducing temperature with its attendant evils; that the intellect is kept clearer and stupor lessened, and a general tonic action on the system exercised; that headache and insomnia are relieved; that the skin is kept softer and circulation improved; that emaciation is retarded, and the chances of cardiac failure and asthenia are reduced. The surgical treatment in typhoid is mentioned and the importance of improvement in our diagnosis specially emphasized in this regard.

Journal of Laryngology, Rhinology and Otology, July.

Some Observations and Remarks on the Air-Currents in Nasal Respiration. Charles A. Parker.—Parker has investigated the air currents in normal respiration by insufflation of lycopodium powder in inspiration and the course of cigarette smoke in expiration, and gives his results as follows: "1. That during quiet inspiration in a normal nose the air traverses the middle, superior, and probably the fourth meatus. 2. That inspiration is impeded by: *a*, Spurs and deviations of the septum and enlargements of the inferior turbinated body, if they project forwards and upwards. (For practical purposes I think a rule may be laid down that if such abnormalities cross and break an imaginary line drawn from the anterior extremity of the inferior meatus—i. e., just internal to the vestibule—to the anterior end of the middle turbinate, they will cause obstruction.) *b*, Enlargements of the middle turbinate body, polypi, etc. *c*, Hypertrophies and growths springing from the vault of the nasopharynx. 3. That in expiration the air traverses chiefly the inferior meatus. 4. That expiration will be more especially affected by:- *a*, Hypertrophies of the posterior end of the inferior turbinate. *b*, Hypertrophies, etc., causing stenosis of the inferior meatus."

The Dublin Journal of Medical Science, July.

Inoculation as a Preventive Against Typhoid Fever. Henry M. Cullinan.—The author believes in the efficiency of inoculation with anti-typhoid serum as a prophylactic of disease. During the epidemic which occurred at the Richmond District Asylum he commenced and inoculated in rapid succession 307 female patients; it was suggested by some of his medical friends that he should inoculate only one-half and leave the rest for control, but he could not follow the suggestion. Of those inoculated out of a total of 511 altogether only 7 contracted the disease and almost all of these were in the incubating stage, he believes, at the time of inoculation. Before this the disease had rapidly spread and 18 cases had occurred among the patients. The employees, who were generally not inoculated, suffered much more severely than did the patients. The constitutional disorders from the inoculation were not of much importance, though the temperature rose in some cases to 103 and 104. The total number of cases inoculated were 511 out of a total of 655 who were liable to be attacked. Of the 511 only 7 were attacked after the operation, and 47 of the cases of typhoid occurred among the uninoculated. Out of 114 nurses, 17, that is 14.9 per cent. were attacked, as against 6.83 per cent.

of the patients. He believes that the method was certainly of use in the epidemic at the Richmond District Asylum.

Annales de Dermatologie (Paris), June.

Lupiform Syphilis. Gaucher.—A number of cases of lupus have been reported recently as cured by mercurial treatment. Gaucher believes that these must have been cases of unrecognized syphilis and relates the following observation in support of this view. An ulcerative lesion appeared on the nose of a girl of 15, involving both skin and mucosa. After many fluctuations between improvement and aggravation, the lesion became chronic and destroyed a portion of the integument. A number of dematologists declared the lesion to be lupus, but it resisted all the usual measures. When seen by Gaucher, the patient was 47 years old. He instituted mercurial treatment with the result that the lesion healed at once. This phenomenon suggested that it must have been a manifestation of tardy heredo-syphilis, and examination of the eyes revealed the ocular stigmata of hereditary syphilis, which no one had suspected before.

Bazin's Indurated Erythema. U. Mantegazza.—Two cases are described in detail to confirm the writer's theory that this erythema is a variety of scrofuloderma. The symptoms, pathologic anatomy and the marked reaction to tuberculin indicate the tuberculous origin of both. The differences are due to the different virulence of the pathogenic agent and the different route it travels.

Chronic Ulceration of the Face in Tabes. G. Thibierge.—The patient was a man of 45, and the ulcerations developed under the same conditions as the buccal mal perforant of tabes, evidently a tabetic trophodermatosis, but they appeared twenty years before any other symptoms of tabes. They occupy the right side of the upper lip and nostril—the skin around them being normal—secrete a little serum and shed a brownish scab from time to time, but are always painless and never more than 1 mm. in depth. The teeth dropped out spontaneously after a few years, and typical tabes developed after twenty years. Giraudeau has reported a similar case, nine years before the appearance of the tabes, in a man of 29. The ulcerations involved the brow, both sides of the nose and both ears. The sensation of pain in the face was lost in both cases; but heat and contact perceptions, and the sensibility of the remainder of the body were intact. Both patients presented eye symptoms, the visual field being much reduced, with ocular vertigo and external strabismus in one eye, and there was a history of mild and brief syphilis in youth. Mercurial treatment had no influence on the ulcerations.

Archives Orientales de Med. et de Chir. (Paris), June.

Phimosis as a Cause of Lithiasis. Reccas.—Congenital phimosis is an important factor in the production of lithiasis of the urethra and bladder. A dozen cases are described showing the evident connection between the phimosis and the development of calculi in infants and adults, and the complete recovery, without recurrence, after the phimosis had been operated. Reccas observes that he has never seen a case of lithiasis, even of the bladder, nor of phimosis among the Jews, who practice circumcision the eighth day after birth. Both are frequent among the Mahometans, who do not circumcise until much later.

Bulletin de l'Academie de Medecine (Paris), July 2.

Pulmonary Affections Originating in Upper Air-Passages. M. du Magny.—Pulmonary congestion and bronchopneumonia may be the direct result of the propagation of some suppurative process in the nose, frontal or maxillary sinus, ear or pharynx. The connection with the primary lesion may be unrecognized, or the latter may be ignored. The pulmonary process, if acute, commences with a sudden invasion of the upper lobe of the lung, with retroscapular pain and signs of parenchymatous congestion and possibly fever of 40 C. The lesion is shown by auscultation to be located principally at the hilus of the lung, at the opening of the upper bronchus into the lung. The attack reaches its height in a few hours and usually subsides in five or six days. This character of sudden and transient congestion and its frequent recurrence, are significant in the diagnosis of the affections originating above. Subacute and chronic cases simulate the onset of tuberculosis: the persisting congestion of the apex, the sputa, loss of appetite and emaciation. The differentiation is possible only by the bacteriologic evidence of pyogenic microbes, instead of the tubercle bacillus, in the sputa and the discovery of the purulent focus above. The physical signs resemble more tracheo-bronchial adenopathy than the permanent indurations of tuberculosis, and their location at the angle of the scapula and at the origin of the upper bronchus, is an important aid in diagnosis. He describes eight cases followed for months or years. The bronchitis recurred winter after winter and simulated tuberculosis, until the discovery of the suppurative lesion and its cure, abolished the pulmonary affection. The removal of nasal polypi or adenoid vegetations or the cure of sinusitis or of a suppurative otitis, banished in a few days the pulmonary symptoms that had resisted all treatment for months or years. He noticed that the pulmonary lesion was always on the side on which the patient habitually slept. Experiments on animals showed that methylene blue injected into the nasal fossæ or a trephined sinus, induced catarrhal symptoms in the upper lobe of the lung on the side on which the animal was forced to recline. The stain could be traced in its course down the side of the larynx, trachea and upper bronchus. It was never detected in the lower bronchus, thus confirming the invariable clinical experience. Tests with pyogenic microbes confirmed these data, and also demonstrated that the lung was not affected if the animal reclined in its usual position, that is, not on the side.

Bulletin de la Societe des Hop. de Paris, June 27.

Success of Gasterin in Therapeutics.—Several communications on this subject appear in the *Bulletin.* Le Gendre states that in his experience at the Tenon hospital he has found the natural gastric juice from the isolated stomachs of dogs, as prepared by Frémont, to which he has given the name of gasterin, the most powerful remedy we possess against insufficient gastric digestion and intestinal fermentations. He reports several instances of its efficacy, especially marked in some cases of postoperative gastric disturbances, in the anorexia and gastric intolerance of pregnancy and subsequent to abortion, in arresting the excessive thirst accompanying certain dyspepsias, and in rebellious diarrhea. Rendu confirms these assertions and cites the case of the daughter of a physician who was evidently passing into a rapid decline after a pleurisy, with absolute gastric intolerance. A few doses of gasterin restored the appetite and digestive functions to normal. Frémont describes a case of enteritis and emaciation from months of diarrhea, cured in a few days with gasterin. The enteritis was evidently due to secretory insufficiency of the stomach. There is no pain in these cases. The nerves are insufficient for transmitting pain as well as for controlling the muscular action of the stomach and its secreting functions. The intestine takes care of the insufficiently digested matters for a time, but finally they irritate the walls and diarrhea follows. He concludes: "How many debilitated, anemic, neurasthenic persons vegetate in an apparently incurable condition because their physician has not discovered their gastric insufficiency—the primal cause of the trouble—and prescribed the appropriate remedy." Mathieu describes fifteen cases cured with gasterin and concludes from his experience that it frequently improves the digestion in hypochlorhydria, accompanied by more or less neurasthenia. Strength returns under its influence and he considers it "a most remarkable remedy, actually superior to all those that have been used in analogous conditions." Even in case of cancer of the stomach, he adds, if it is tolerated, it may produce marked improvement for a time.

Chronic Diarrhea and Insufficiency of the Gastric Juice. Soupault.—The connection between insufficiency of the gastric juice and chronic diarrhea proclaimed by Frémont, is confirmed by Soupault's experience. He cured ten patients with rebellious protracted diarrhea, by administering hydrochloric acid in the form of a lemonade, a glass to be taken at meals. His formula is 6 to 8 gm. hydrochloric acid; 150 gm. syrup of lemon and water to make one liter. The hydrochloric acid acts in the same way and seems to be as effective as gasterin. He has confirmed the fact noticed by others that the stomach in these cases is emptied very rapidly. Food ingested only fifteen to thirty minutes before is frequently found in the stools. The food matters which pass into the intestine without having been digested by the gastric juice, evidently irritate and induce an exaggerated peristalsis, which entails their rapid evacuation and results in a chronic enteritis. Gasterin or hydrochloric acid aids in the gastric digestion of the food matters, retards their evacuation from the stomach and thus removes the cause of the diarrhea.

Echo Medical (Lille), July 7.

Effect of Yeast on the Leucocytes. Delearde.—The therapeutic administration of brewer's yeast has a decided influence on the leucocytes in the blood. In some persons the number of white corpuscles rapidly increases and then diminishes; in others the number decreases from the start. The polynuclears, generally speaking, are increased in numbers. The tests were made on healthy and tuberculous persons, and about an equal number of each reacted with the increase or the decrease. When yeast is administered in furunculosis, the benefit first experienced rapidly subsides, and it is necessary to suspend it and commence over again. This may correspond to the marked but transient, leucocytosis observed. The absence of leucocytosis in others may explain why some persons fail to derive any benefit from the yeast.

Progres Medical (Paris), July 6.

Membrano-Ulcerative Tonsillitis. A. Raoult.—Thiry has recently observed 14 cases of membrano-ulcerative lesions, 4 of which were tonsillitis and 5 stomatitis. Raoult describes 5 new cases, the patients all adults, in all of which the fusiform bacillus and Vincent's spirillum were found more or less numerous. Several were bilateral lesions. They frequently resisted treatment for a long time in the city, but healed in a few days after removal to the country. Stomatitis and tonsillitis co-existed in one case. One tonsil had been completely destroyed by secondary infection. The patients complained of slight fever, difficulty in swallowing and general depression, painful and swollen glands in the vicinity but no chills. The patches of membrane were wiped off by the patients themselves, in some cases leaving an ulcerative lesion. The breath was fetid and there was considerable pain at the site of the lesion. The affection is evidently identical with Vincent's diphtheroid angina, and Athenasiu's membrano-ulcerative angina in children, of which it is a later stage. In one case there was a double relapse, at first on the same side and then on the other, the patient much debilitated by the protracted course. Recovery was not quite complete December 15, and the first symptoms had been noted September 15.

Elimination of Urea in the Sputa in La Grippe. Delore. Three months after an attack of la grippe, the effects of which lingered in a bronchial affection, the patient, an elderly arthritic brain-worker, presented symptoms indicating uremia, but the kidneys showed normal elimination of urea. Fine fern-shaped crystals of urea were found also in the transparent, mucous sputa. Expectoration was accompanied by a smarting sensation. The diagnosis was intoxication from nicotin, as the man smoked six times a day, and the assumption was that the nicotin enhanced the organic susceptibility to the urea, which was being eliminated in normal amounts in the blood, sweat and sputa. A prolonged hot bath and deprivation of tobacco cured the bronchitis and, with it, all the other symptoms.

Jahrbuch f. Kinderheilkunde (Berlin), May.

Empyema in Childhood. A. Wuertz.—Eight out of 18 children with empyema recovered, 4 without and 4 in spite of complications. Four of those who died—from 5 to 16 months old—had no complications. All the cases were unilateral and the little patients preferred to lie on the affected side. The respiration varied from 32 to 148 and the pulse from 120 to 148. The heart was displaced in 10—to the right in 7. The liver rose above the costal arch in 6. In 4 cases furunculosis and abscesses denoted a tendency to suppuration.

June.

The Anemia of Young Children. Geissler and Japha.—It is evident that some of the cases now classified as pseudo leukemic anemia belong to the group of the simple, severe, chronic anemia of young children—splenic anemia. Others possibly should be classed as leukemia, but cases observed at Heubner's clinic, indicate that although the blood presents the leukemia formula, the affection may terminate in recovery. Alterations in the red corpuscles, especially the appearance of megaloblasts, should be considered pathologic in young children. The total number of leucocytes and the proportion of lymphocytes in this splenic anemia is normally larger than usual. A polynuclear leucocytosis may be transient. The severe forms of anemia in children are invariably accompanied by an enlargement of the spleen, but it may be enlarged also in mild anemia and even in its absence. The twenty-six cases described demonstrate the existence of this disease of the blood in young children, especially in those with rhachitis. It ranges from a slight decrease in the hemoglobin and the number of the reds to the appearance of megaloblasts.

Histologic Examination of the Bones of Children Treated with Suprarenal Extract. W. Stoeltzner.—Anatomic and histologic study of sections of the bones of children who had been treated with suprarenal extract during life, showed almost normal composition of the bones at the points usually occupied by the pathologic osteoid tissue in rhachitis. This research establishes a scientific foundation for treatment with suprarenal extract, which is lacking for other methods of treatment.

Wiener Klinische Rundschau, July 7.

Biologic Differentiation of Blood Specimens. I. Honl.—The Uhlenhuth and Wassermann method of differentiating specimens of blood has been thoroughly tested by Honl, who confirms in every respect the claims of the discoverers of the method.

[Other exchanges bring similar corroboration from all parts of the world.—Ed.]

Pneumotyphoid. A. Hoff.—A young man, previously healthy, complained of persistent headache, depression, weakness and trembling of the limbs and lips; the tongue was dry and coated, and the throat congested. The other organs were sound except for a slight unilateral bronchial lesion. In a few days the right lower lobe was entirely involved. The fever and cerebral symptoms indicated typhoid, which was confirmed by roseola and enlargement of the spleen. Widal's and the diazo-test were positive by the third day. The course of the disease corroborated the diagnosis of typhoid fever localized in the lung. There was no expectoration and after the crisis the symptoms subsided by the twenty-second day. Three days later an extensive, rebellious erysipelas appeared on the right thigh, and the much debilitated patient succumbed in three days. Klebs has shown that erysipelas in typhoid patients can be caused by the typhoid bacilli and Hoff considers it in this case an indication that the typhoid bacilli had regained their virulence, and that it was thus a kind of relapse. He considers it possible that the bacilli might have reached the lung by way of the blood from the intestines or urogenital tract, passing from the stomach into the intestines and thence into the lymph and blood circulation, without causing a lesion in the intestines. Kreibich has reported a case, in which he found the colon bacillus in pure cultures in a case of pneumonia. Hoff admits, however, that the typhoid bacillus might have been inhaled. Gerhardt has noted that 10 per cent. of typhoid patients have an ulceration in the pharynx, and that this ulceration may appear as the first localization of the disease.

Zeitschrift f. Tuberkulose (Leipsic), ii, 2.

Four Cured Cases of Tubercular Pneumothorax. L. Spengler.—The fact that tubercular pneumothorax is curable, has been demonstrated again by four new cases reported by Spengler of Davos, and a fifth cured except for the persistence of a serous exudate. In four of the cases a pulmonary lesion was healed at the same time. The most favorable chances for recovery are afforded by the development of an extensive exudate, but no means have yet been devised to safely induce this exudate in man, although injections of silver nitrate accomplish this result in dogs. The formation of the exudate is favored by leaving the bed, but when a certain amount of fluid has accumulated, symptoms of compression and dyspnea appear, compelling the patient to return to bed. Spengler waits before puncturing until three weeks have passed without evidences of air in the pleural cavity. This indicates with considerable certainty that the hole in the pulmonary pleura has become permanently closed. Every exudate is accompanied by more or less deposit of fibrin on the pleuræ. This tends to glue the edges of the hole together, aided by the pressure of the accumulated fluid. By the end of the three weeks, this deposited fibrin has become organized into connective tissue more or less, and the compressed organs can now be relieved by withdrawing a small amount of the fluid—not more than 500 to 700 c.c.—after the nature of the exudate has been determined by exploratory puncture. A week or two later, a liter of the fluid may be withdrawn and two to four weeks after this, 1.5 to 2 liters. Further aspiration is seldom necessary. Sero-fibrinous exudates, the sero-purulent and the exudates resembling pus but free from pyogenic micro-organisms, are all amenable to this method of treatment. One of his five cases recovered without the necessity of a puncture, but he punctured twenty-two times in the other four cases. The character of the exudate remained unchanged by the intervention.

Operative Treatment of Pulmonary Tuberculosis.—H. Sarfert.—As the result of extensive experimental research Sarfert announces that tubercular cavities do not form in the lungs from the action of the tubercle bacillus alone, nor from the streptococcus alone. There must always be a primary tubercular lesion. The streptococcus will then colonize in it and the combination of the two micro-organisms results in the production of the cavity. Treatment with tuberculin or other specific measures affects only one of these parasites, which explains its failure to cure these cases. If the other parasite could be evacuated by an operation, the specific treatment would then have a chance to succeed. When a cavity has been spontaneously evacuated, the walls are covered with caseous matter in which various bacteria continue to vegetate. The vessels are dilated with imminent danger of rupture and flooding of hitherto sound parts of the lung with blood from the lesion, spreading the infection even if the hemorrhage is not directly fatal. These conditions, as well as an active cavity, require operative treatment. Sarfert has devised a method of operating, worked out on hundreds of cadavers, and has applied it on one patient with entire success, as mentioned in The Journal at the time, xxxvi, p. 693. He resects the second rib from the sternum to the axilla; mobilizes and shells out the apex of the lung. He is then able to determine by palpation the site of the cavity, its size, etc., through the wall of lung tissue, which feels like a thick rubber ball. He then incises the wall and tampons the cavity. This incision affords ample oversight of the cavity, vessels, etc. In the patient operated on, an isolated, large cavern of the right upper lobe was correctly diagnosed. The apex of the lung with the cavity was shelled out, and the latter entered through a pleuro-fissure. The bleeding was minimal, and respiration undisturbed. There was no danger of the development of a pneumothorax, as in consequence of the extensive adhesions between the pleural walls there was no longer a pleural cavity. The large space left after the operation between the apex of the lung and the wall of the thorax gradually filled up with granulations and the cavity became obliterated by cicatricial retraction. Sarfert's monograph has been published in book form (J. Booch, Werdau i. Sa.), with illustrations. One shows the tubercular infiltration of a rabbit's lung after intratracheal injection of a culture of tubercle bacilli, and later, the formation of cavities, after injection of streptococci.

Gazzetta degli Ospedali (Milan), July 4.

Tubercular Pleuritis. Dieulafoy.—Acute, sero-fibrinous, cold pleurisy, even the apparently idiopathic variety, is always tubercular, although it may commence with a sudden, acute onset. The pleurisy may be secondary to a pulmonary lesion or it may be the sole localization of the tubercular infection. The cytodiagnosis depends on the composition of the effusion in case of cardiac lesions, in Bright's disease on the endothelial desquamation, in pneumococcus pleurisy on the leucocytosis and in the tubercular, sero-fibrinous pleurisy on the lymphocytosis. Clinical experience demonstrates that this acute, *a frigore* pleurisy may terminate in complete recovery, but this is no evidence against its tubercular nature, as tubercular manifestations on the pleura heal more readily than on any other serous membrane. Persons recovering from a pleurisy of this kind should be treated by the hygienic and other measures indicated for tuberculosis.

Giornale della Accademia di Medicina (Turin), lxiv, 5.

Microscopy of the Vessels of the Conjunctiva. P. Bajardi.—With a microscope magnifying 63 diameters, it is possible to watch the circulation in the vessels of the conjunctiva and retina during life. Bajardi observed the effects of various drugs in this way; cocain induces in ten to fifteen minutes a pronounced constriction of all the vessels, the smaller ones being entirely emptied of blood. With a 5 per cent. solution, this constriction was pronounced for nearly four hours after instillation, after which it rapidly subsided. After instillation of two drops of suprarenal extract, all the superficial and deep vessels become constricted to an intense degree for about an hour, gradually returning to normal by the end of the second hour. Instillation of a 1 per cent. solution of eserin constricts the vessels for one and one-half hours. All these substances retard the circulation, and the conjunctiva appears less transparent, as if it were suffused with a yellowish fluid, which brings certain capillaries, previously invisible, into view.

Books Received.

Annual and Analytical Cyclopedia of Practical Medicine. By Charles E. de M. Sajous, M.D., and one hundred Associated Editors. Assisted by Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromo-lithographs, Engravings and Maps. Volume VI. Cloth. Pp. 1043. Price, $5.00 per volume. Philadelphia, New York, Chicago: F. A. Davis Co. 1901.

Anesthetics and Their Administration. A Text-Book for Medical and Dental Practitioners and Students. By Frederic W. Hewitt, M.A., M.D. Cantab., Anesthetist to His Majesty the King. With Illustrations. Cloth. Pp. 528. Price, $4.00. London and New York: MacMillan & Co. 1901.

The Johns Hopkins Hospital Reports. Paper. Pp. 131. Baltimore: Johns Hopkins Press. 1901.

Eighteenth Annual Report of the Presbyterian Hospital of the City of Chicago, with the Seventeenth Annual Report of the Ladies' Aid Society, 1901. Paper. Pp. 65.

Military Government of Porto Rico from October 18, 1898, to April 30, 1900. Appendices to the Report of the Military Governor. Paper. Pp. 359. Washington: Government Printing Office. 1901.

Proceedings of the New York Pathological Society, March, 1901. Paper. Pp. 17. New Rochelle, N. Y.: Published by the Society. 1901.

Proceedings of the Pathological Society of Philadelphia, July, 1901. Paper. Pp. 13. Philadelphia: Published by the Society. 1901.

The Newer Remedies, Including Their Synonyms, Sources, Methods of Preparation, Tests, Solubilities, Incompatibles, Medicinal Properties, and Doses as far as Known, Together with Sections on Organo-Therapeutic Agents and Indifferent Compounds of Iron. A Reference Manual for Physicians, Pharmacists, and Students. By Virgil Coblentz, A.M., Phar. M., Ph.D., F.R.C.S., Professor of Chemistry and Physics in New York College of Pharmacy. Third Edition. Revised and very much Enlarged. Pasteboard. Pp. 747. Philadelphia: P. Blakiston's Son & Co. 1899.

New Patents.

Patents of interest to Physicians, etc., July 9 and 16:

678,212. Fumigating apparatus. Gilbert E. Alphin, Mount Olive, N. C.
678,330. Halogen albumin, and making same. Ferdinand Blum, Frankfort-on-the-Main, Germany.
678,333. Tonsillotome. George Ermold, Elizabeth, N. J.
678,334. Tonsillotome. George Ermold, Elizabeth, N. J.
678,242. Atomizer. Hermann Goltermann, East Orange, N. J.
677,879. Hernial truss. Wm. A. Middaugh, Kalamazoo, Mich.
678,272. Divider and bag-filler for powders. Ludwig Neumayer, Merseburg, Germany.
678,284. Medicine chest. Jacob Schaffer. New York City.
678,714. Vaporizer, Anton Bulling, Munich, Germany.
678,401. Salicylic ether of quinin. Fritz Hofmann, Elberfeld, Germany.
678,568. Syringe. Richard J. Hughes, Dedham, Wis.

678,417. Surgical jaw splint and support. Wm. G. E. Muller, Paterson, N. J.

34,779. Design, inhaler. John J. McPherson, Montgomery, Ala.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., during the period June 27 to July 17, 1901, inclusive:

Frank E. Artand, major and surgeon, Vols., leave of absence granted on the expiration of which he will proceed from Lake Providence, La., to San Francisco, Cal., en route for duty in the Division of the Philippines.

Percy M. Ashburn, lieutenant and asst.-surgeon, U. S. A., leave of absence granted.

John M. Banister, major and surgeon, U. S. A., member of a board at West Point, N. Y., to examine candidates for admission into the U. S. Military Academy.

Irvin E. Bennett, captain and asst.-surgeon, Vols., leave of absence from China Relief Expedition extended to include Aug. 26, 1901, when he will report for transportation to Manila, P. I., for duty in the Division of the Philippines.

Horace D. Bloomberg, lieutenant and asst.-surgeon, U. S. A., recently appointed, will proceed from Easton, Pa., to Plattsburg Barracks, N. Y., for temporary duty.

Reuben M. Bonar, captain and asst.-surgeon, Vols., recently appointed, is relieved from duty at Camp McKinley, Honolulu, H. I., and will proceed to Manila, P. I., for assignment in the Division of the Philippines.

William C. Borden, major and surgeon, U. S. A., leave of absence granted.

Roger Brooke, Jr., lieutenant and asst.-surgeon, U. S. A., recently appointed, to proceed from Sandy Springs, Md., to Fort Myer, Va., for temporary duty.

Robert Burns, major and surgeon, Vols., recently appointed, leave of absence granted.

Robert E. Caldwell, captain and asst.-surgeon, Vols., recently appointed, is relieved from duty on the transport *Rosecrans* and will report for transportation to Manila, P. I., for assignment in the Division of the Philippines.

George H. Calkins, contract surgeon, from Tonawanda, N. Y., to Fort Meade, S. D., for post duty.

William B. Davis, major and surgeon, U. S. A., member of a board at West Point, N. Y., to examine candidates for admission into the U. S. Military Academy.

Matthew A. DeLaney, lieutenant and asst.-surgeon, U. S. A., recently appointed, is assigned to temporary duty at Fort Monroe, Va.

John Ryan Devereux, lieutenant and asst.-surgeon, U. S. A., recently appointed, will report for duty to the commanding officer, Washington Barracks, D. C.

Guy L. Edie, major and surgeon, U. S. A., from the Department of California to Columbus Barracks, Ohio, for post duty.

Peter C. Field, lieutenant and asst.-surgeon, U. S. A., recently appointed, will proceed from New Brunswick, N. J., to Fort Slocum, N. Y., for temporary duty.

Charles C. Geer, lieutenant and asst.-surgeon, U. S. A., recently appointed, and now at Belton, S. C., is assigned to temporary duty at Fort McPherson, Ga.

George H. R. Gosman, lieutenant and asst.-surgeon, U. S. A., recently appointed, and now at Brooklyn, N. Y., is assigned to temporary duty at the U. S. Military Academy, West Point, N. Y.

William W. Gray, major and surgeon, U. S. A., from the Division of the Philippines to Fort Thomas, Ky.

Abram L. Haines, major and surgeon, Vols., recently appointed, and now at Albany, N. Y., will proceed to San Francisco, Cal., en route for assignment to the Division of the Philippines.

Paul S. Halloran, lieutenant and asst.-surgeon, U. S. A., recently appointed, will proceed from York, Pa., to Fort Wadsworth, N. Y., for temporary duty.

George L. Hicks, Jr., major and surgeon, Vols., is assigned to the 38th Infantry, Vols.

Henry F. Hoyt, major and surgeon, Vols., leave of absence from the Division of the Philippines extended.

Thomas T. Jackson, captain and asst.-surgeon, Vols., having tendered his resignation, is honorably discharged, to take effect July 15, 1901.

Nathan S. Jarvis, captain and asst.-surgeon, U. S. A., having been duly examined by a board of officers under the provisions of an act of Congress, approved March 2, 1901, and pronounced by the board eligible for retirement, and having been duly appointed an assistant-surgeon under the authority conferred by the said act, is, by direction of the President, placed upon the retired list of the army, to take effect June 29, 1901.

William P. Kendall, major and surgeon, U. S. A., member of a board at West Point, N. Y., to examine candidates for admission into the U. S. Military Academy.

H. Newton Kierulff, contract surgeon, from the transport *Kintuck*, to Fort Stevens, Oregon, for temporary duty.

Conrad E. Koerper, lieutenant and asst.-surgeon, U. S. A., recently appointed, will report to the commanding officer, Washington Barracks, D. C., for temporary duty.

William C. Le Compte, contract surgeon, from Fort Du Pont, Del., to duty at Fort Niagara, N. Y.

William F. Lewis, captain and asst.-surgeon, U. S. A., is detailed as a member of an examining board at Fort Leavenworth, Kan.

Robert J. McAdory, contract surgeon, relieved from duty at Fort McDowell, Cal., and will proceed to Honolulu, H. I., for duty at Camp McKinley.

George L. Marion, contract surgeon, leave of absence granted.

Charles F. Mason, captain and asst.-surgeon, U. S. A., member of an examining board at San Antonio, Tex., vice Lieut.-Col. C. B. Byrne, deputy surgeon-general, relieved.

Paul Mazzuri, captain and asst.-surgeon, Vols., recently appointed, relieved from the Department of Cuba, to proceed to San Francisco, Cal., en route to the Division of the Philippines for assignment.

William O. Owen, major and surgeon, U. S. A., from Fort Thomas, Ky., to San Francisco, Cal., en route to the Division of the Philippines for duty.

Rudolph S. Porter, major and surgeon, Vols., recently appointed and now at Chicago, Ill., will proceed to San Francisco, Cal., en route for duty in the Division of the Philippines.

Ernest L. Ruffner, lieutenant and asst.-surgeon, U. S. A., recently appointed, and now at Buffalo, N. Y., is assigned to temporary duty at Columbus Barracks, Ohio.

John L. Shepard, contract surgeon, now at Chicago, Ill., will proceed to Fort Logan, Colo., for post duty.

Henry R. Stiles, captain and asst.-surgeon, U. S. A., leave of absence extended.

Robert M. Thornburgh, lieutenant and asst.-surgeon, U. S. A., leave of absence granted, on the expiration of which he will proceed to Fort Slocum, N. Y., for temporary duty.

Robert P. Updyke, contract dental surgeon, from Washington, D. C., to duty at Fort Leavenworth, Kan., ten days' delay granted in complying with this order.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending July 20, 1901:

Asst.-Surgeon F. M. Bogan, detached from the *Scorpion*, when put out of commission, and ordered to the *Machias*.

P. A. Surgeon C. P. Bagg, detached from the *Culgoa*, and ordered to the *Yorktown*.

Surgeon C. J. Decker, detached from the *Newark*, when put out of commisssion, and ordered home to wait orders.

Asst.-Surgeon W. H. Bucher, detached from the Naval Hospital, Norfolk, Va., and ordered to the *Dixie*, July 22.

Asst.-Surgeon P. E. McDonnold, ordered to duty at the Naval Museum of Hygiene, Washington, D. C., July 25.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended July 19, 1901:

SMALLPOX—UNITED STATES.

California: San Francisco, June 30-July 7, 1 case.

District of Columbia: Washington, July 6-13, 1 case.

Illinois: Chicago, July 6-13, 3 cases.

Kansas: Wichita, July 6-13, 1 case.

Louisiana: New Orleans, July 6-13, 1 case.

Massachusetts: July 6-13, Boston, 1 death; Holyoke, 2 cases; New Bedford, 1 death.

Michigan: Detroit, July 6-13, 1 case.

Minnesota: Minneapolis, June 30-July 7, 2 cases.

New Hampshire: Manchester, July 6-13, 1 case.

New Jersey: Newark, July 6-13, 1 death.

Ohio: Cincinnati, July 5-12, 3 cases; Cleveland, July 6-13, 8 cases, 1 death; Toledo, July 6-13, 1 case.

Pennsylvania: Lebanon, July 6-13, 6 cases; Philadelphia, July 6-13, 3 cases, 1 death; Pittsburg, July 6-13, 2 cases.

Tennessee: Memphis, July 6-13, 1 case.

Utah: Salt Lake City, June 30-July 6, 2 cases.

Washington: Tacoma, June 30-July 7, 1 case.

SMALLPOX—FOREIGN.

Austria Hungary: Prague, June 22-29, 1 case.

Belgium: Antwerp, June 15-29, 2 deaths.

Canada: British Columbia, Victoria, June 15-30, 2 cases.

China: Hongkong, May 25-June 1, 1 case, 1 death.

Colombia: Panama, July 1-8, 5 cases, 1 death.

Ecuador: Guayaquil, May 11-June 8, 7 deaths.

Egypt: Cairo, June 18-24, 1 death.

France: Paris, June 22-29, 10 deaths.

Great Britain: Dundee, June 22-29, 1 case; Glasgow, June 28-July 5, 9 cases, 1 death; Liverpool, June 15-29, 4 cases, 2 deaths: London, June 22-29, 5 cases, 2 deaths.

India: Bombay, June 11-18, 6 deaths; Calcutta, June 7-15, 6 deaths; Karachi, June 2-9, 1 case, 1 death; Madras, June 1-13, 9 deaths.

Italy: Messina, June 22-29, 12 cases: Naples, June 23-30, 170 cases, 32 deaths.

Russia: Moscow, June 15-22, 7 deaths; Odessa, June 15-29, 3 cases; St. Petersburg, June 15-22, 1 death; Warsaw, June 8-15, 3 deaths.

Spain: Corunna, June 22-29, 3 deaths; Valencia, June 8-23, 1 death.

Switzerland: Geneva, June 15-22, 1 case.

YELLOW FEVER.

Costa Rica: Port Limon, July 4, 1 case.

Cuba: Cienfuegos, July 15, 1 case.

Mexico: Vera Cruz, June 30-July 6, 6 cases, 4 deaths.

CHOLERA.

India: Bombay, June 11-18, 3 deaths; Calcutta, June 8-15, 53 deaths; Madras, June 1-14, 1 death.

PLAGUE.

Africa: Cape Town, to June 22, 735 cases, 354 deaths; June 15-22, 21 cases.

China: Hongkong, May 25-June 1, 215 cases, 207 deaths.

India: Bombay, June 11-18, 54 deaths; Calcutta, June 8-15, 48 deaths: Karachi, June 29, 28 cases, 25 deaths.

Japan: Formosa, June 23,. epidemic; Nagasaki, June 1-10, 1 death on U. S. S. *Kintuck*.

Mauritius: June 13-20, 2 cases, 1 death.

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Original Articles.

RESULTS OF OVARIAN SURGERY.[*]

WITH FURTHER REPORT UPON INTRA-IMPLANTATION OF OVARIAN TISSUE.

A. PALMER DUDLEY, M. D.
Surgeon to Harlem Hospital: Professor of Gynecology, Post-Graduate Medical School and Hospital, and Dartmouth Medical College.
NEW YORK CITY.

It has become a well-established fact that the ovaries in women can be treated surgically, in an aseptic manner, almost with impunity, and that, after such treatment, they recover their lost function and continue to do their full duty in the human economy for many years. Abundant evidence of this fact is on record in medical journals of this country and Europe, published during the past fourteen years. Early in 1887, I began what was then experimental work in surgery on the ovary. At the present time it is no longer experimental. The results of that work have been published. (See bibliography.)

As the title of my paper indicates, it is not my purpose at present to ask you to listen to reports of detailed cases, in an effort to prove to you my previous statements, but to give you some of the results of such work that will be of interest—not from a statistical standpoint—but from my own individual cases. Others have added largely to the list of successes, especially Drs. Polk and Goffe of New York, and Dr Burrage of Boston, who, in a discussion before the Academy of Medicine, on February 7 of the present year, reported many interesting and successful cases of ovarian surgery. At that time I reported and showed histories for 182 individual cases in which I had performed consecutive conservative operations upon the uterine appendages, without the loss of a single case, and these not selected, but taken, in the parlance of athletics—"catch as catch can." I am now able to add to that number 8 cases, making in all 190 operated on, up to the present day, without a single failure. Although I have abstract histories of these cases, to call attention to them individually would weary you, and cause you to lose interest in my subject. I shall not attempt it, but shall merely describe in a general way some of the results I have obtained in such of the number as I have been able to trace the after-history of—which is not an easy matter when dealing with hospital patients. Among this number are six cases of intra-uterine implantation of the ovary, which I shall discuss later on. In nearly all of the cases, some other form of surgical work was performed besides that upon the ovary.

It must be borne in mind that only a very small number of the sum total of all cases for which one man is called on to make abdominal section, will be suitable ones on which to do conservative ovarian surgery. I have been fourteen years in finding the 190 suitable cases for such work in the sum total of all laparotomies I have made. It must be borne in mind that an operator is put to the test of deciding on the spot the question of suitability for such work. I have no doubt that many of the cases that I have passed by as unsuitable in the past, I could with my present knowledge of ovarian surgery have saved some portion of.

Many of you will express your disbelief in such work. My criticism of your opinion would be to ask you to place yourself in the woman's position. Would you desire to be totally unsexed? You would ask the question: What constitutes unsexing? My answer would be: Depriving you of any physical function with which nature endowed you. From such a standpoint I desire that you should criticise my work. In the results attending the same I shall offer descriptions of major cases where the patients have been for years chronic invalids and where the results of the work have been to restore not only health to the patients but normal function to the organ. Included in this number are cases in which the ovary has been completely buried in plastic exudate, in which the tube involved in the same has been completely occluded in its outer half; where the uterus has been displaced and firmly bound in such displacement; in fact, where every organ and function in the genital system of these women have been pathologic. It is nonsense for any man in the profession at the present time to say that because a woman's appendages are diseased she should therefore undergo hysterectomy, and forever after be what is commonly called an "it"; and I will offer, before I close, sufficient proof of the truth of my statement. The only difficulty in this field of work is the ability of the operator to determine which are suitable cases that come under his observation. Let me offer for your consideration the points that guide me in my selection of cases. I will divide them into two classes.

1. The age of the patients to be operated on; social position; previous family history; and patient's preference in the matter—the three former conditions being taken into consideration.

2. The diseased conditions associated with that of the appendages which I find upon opening the abdomen.

To return and give my reasons which govern my action for each condition mentioned.

As to the age of the patient, I would not dream of doing such plastic work on the ovaries of a patient who was nearing the menopause. It is only the young, or those hopeful of bearing children, that I would consider suitable for such work.

Social position would influence me materially. I mean by that, the hardworking, daily toiling woman is not as fit a subject for such work as the woman so situated in life as to be able to conserve her strength and, if necessary, to take a prolonged rest, in order to secure the best possible results from such work. The history of hereditary taint from syphilis, tuberculosis, or other diseases, liable to influence the result would deter me from such work.

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[*] Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee of the Section: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

The patient's preference in the matter would influence me considerably to depart from the previous position taken, providing her domestic happiness depended upon it.

The second consideration would be the diseased condition of the genital organs which I found, associated with that of ovarian disease. For instance, uterine gonorrheal infection still active, syphilitic infection still active, either secondary or tertiary, fibroidal conditions that would require such extensive myomectomy that the ultimate result would be a deformed uterus, and probably occluded tubes, resulting in peritoneal complications that would prevent the result we desire to obtain.

The first series of reasons I have given are more or less sentimental with me, which possibly those that listen to me would not indulge in. The second series are hard facts, which we meet with at the operating table and must decide on at the moment. Hence it is that occasionally our most sanguine hopes fail us, and the disbeliever who afterward gets the case is in a position to make it hot for the previous operator; but faint heart never won fair lady, neither will the disbeliever be able to win the argument respecting the results of ovarian surgery until he can do so from the basis of an equal number of cases, and their results at his hands. I started out to give you my results, and in my enthusiasm I have drifted somewhat from the subject, but before recording results, I will state that in each and every case of the 190 which I report, the work done upon the appendage was a surgical removal of some portion of it, and a repair of the structures allowed to remain, by suture. I have with me and will distribute drawings representing the average work. Those relating to implantation of ovarian tissue in the uterus will allow of description when I take up the discussion of that portion of the subject. I have previously made the statement that in many of the cases multiple operations were performed—other than those upon the ovaries—at the same time. This, as you can readily see, would be absolutely necessary as a part of the cure. My records show the following: Plastic work upon both ovaries, 128 cases; one tube and ovary removed, 60 cases; gonorrheal tubes bisected and one-half of each removed, 5 cases; vaginal section for drainage, 14 cases; kidney fastened, 4 cases; and hysterorrhaphy, 73 cases. The appendix was removed in 14 of the cases, curettage was done in 29, and cervix and perineum in 14. As a result of this work, and this is the point of my paper, I am able to report to you that of those cases I have been able to keep trace of, 137 were cured; 11 suffered some pain with menstruation and are therefore recorded as improved, leaving 42 unheard from after leaving my service. From this number, 148, I am able to report 23 cases of pregnancy with delivery at full term, and 5 cases of miscarriage; in all, 28 pregnancies, an average of about one in every five and one-third cases, which I am sure would have been much diminished could I have followed the after-history of all the cases I have operated upon. The sole object of this work being to preserve the ovarian influence and the function of menstruation to the woman, care must be taken to operate in such a manner that the circulatory and nervous supply shall not be cut off. I therefore take care to section the ovary lengthwise, rather than crosswise. In operating for the removal of cysts of considerable size, I do not hesitate to split the ovary in two, down to the hylum, but I take care not to sever the ovarian artery and nerve which transverses the ovary at this point. I invariably use very fine floss silk suture which can not be obtained from an instrument-maker, but which I purchase at the silk-embroidery counter of a dry-goods establishment. I do not hesitate to place several rows of this suture material through and through an ovary, always using a cambric needle. I never, under any circumstances, use catgut suture in the ovary. I do not subscribe to the use of the thermo- or galvano-cautery in the treatment of cystic degeneration, although I am well aware that it is employed by the most eminent of gynecologists in both France and Germany, because it is my belief that no man can tell just how far beyond the part touched by the cautery the heat will destroy the ovarian cells, and in this way cause large portions of the healthy ovarian tissue to become permanently injured. I prefer to open the cysts, curette out the cyst sac with a small sharp curette and then stitch the cavity up with fine suture. I have yet to see the first case of suppuration of the ovary follow such work, although, as I have previously stated, I made vaginal section for drainage 14 times. I am positive that the ovary heals kindly, having had occasion to reopen the abdomen on two occasions after such work was performed. In both of these cases I found the ovary perfectly healed. In one, which you will find note of in the reprints, the woman, after undergoing the second abdominal section, gave birth to a full-term healthy child. The case is a most interesting one, but it is already in print. Dr. Burrage, in his article, reported one of his cases as having become pregnant, although both tubes had been removed. This, although an unusual occurrence, is not by any means the first to occur. Robertson, in 1890, reported a case of pregnancy after double ovariotomy; in 1896, at a meeting of the American Gynecological Society, Dr. Gordon, of Portland, Me., reported a case, and Dr. Sutton, of Pittsburg, one, and in the discussion I reported a case of pregnancy after hysterectomy, which occurred in the practice of a German operator. The operator's name I am unable to give you, for I have lost the notes of the case. Vaginal hysterectomy was made, the tubes and ovaries were allowed to remain, as is done in many cases operated upon abroad. The broad ligaments, including the stumps of tubes, and ovaries, were brought into the vagina and fastened to the vault. The impregnation was a tubal one, which she carried six weeks, and he curetted the ovum from the tube dependent from the vault of the vagina, and from microscopic examination, recognized the chorionic membrane and a portion of the fetus. These reports, together with the 28 pregnancies which have followed in the wake of my operative work upon the ovary, seems to me to be sufficient evidence that the ovary, or healthy portions of it allowed to remain, if given half a show, will perform its function in a manner satisfactory to those interested. I am even prepared to go farther than that, with sufficient evidence, I think, to satisfy even the most skeptical, that ovarian tissue is capable, even of change of habitation, and still will not shrink from doing its duty. In August, 1899, I read a paper before the International Gynecological Congress, in Amsterdam, in which I reported several cases of transplantation of ovarian tissue into the broad ligament and cul-de-sac of the vagina, successfully performed, notably by Drs. James H. Glass, of Utica, and Robert T. Morris, of New York. At the same time I showed drawings and described my method of procedure, in my first case of intra-uterine implantation of the ovary, which, so far as I had been able to learn up to that time, and in fact up to January 19 of the present year, was the first case so treated. At that time, Jan. 19, 1901, Dr. Morris, of New York, published an article read before the Society of Alumni of Bellevue Hospital, Dec. 5, 1900, in which he reports six cases of ovarian grafting. In the first case a small portion of ovary was transferred to the interior of the stump of the right oviduct. I sincerely desire the privilege of criticising the case, as well as the next following, from his published report, a copy of which I have present. This case, I find, together with Case 2, was published in his book, in 1897, and again referred to in his article on Dec. 5, 1900. The results savor so of incompatibility with any that I have been able to obtain that I desire to quote from them to some extent.

In Case 1, a small piece of the patient's ovary was transferred to the interior of the stump of the right oviduct. The patient became pregnant about a month after leaving the hospital, but lost a well-developed fetus by abortion the third month. This graft was placed in the stump of a septic tube of long standing, and still in four weeks' time she became pregnant. He saw the patient in May, 1900. She had ceased to menstruate, although only 26 years of age, without the record of a pregnancy following that of the first six weeks after the grafting. How does this compare with the statement made to me by the gentleman on May 13 last, at 10:30 a. m., that he thought his case had been one of extra-uterine pregnancy. Regarding the second case, a patient 20 years of age, who has an infantile uterus and rudimentary adnexa, neither of which are reported to have been removed. She received an ovarian graft in the fundus, as adjunct to her own ovaries. Are we therefore sure that the menstruation that appeared six weeks later was from the grafted ovary, or the influence of the work performed exerted in influencing the action of her own ovaries? I confess I am skeptical regarding both these cases. With respect to the grafting of ovarian tissue into the broad ligament near the horn of the uterus, which the Doctor reports as having been doing since 1899, I confess I have not resorted to it, neither can I see the utility of it, because of the dangers attending it. These are three-fold: 1, the possibility of grafting diseased ovarian tissue in a position where it could not be reached, except through another abdominal or vaginal section; 2, the development of an ovarian cystoma from such grafting of diseased ovarian tissue, and 3, the possibility of pregnancy, which, of course, could only be abdominal, cases of which we know are on record.

I prefer the intra-uterine implantation of the ovary, as first performed by me on May 24, 1899, and reported before the International Congress, at Amsterdam, in August of the same year; and I have the records of 5 successful cases performed since that time, all of which are now menstruating. Unfortunately, only two of the six cases are married women living with their husbands, two are widows, and two are single girls. As yet I am unable to report a pregnancy that I can verify. As I have modified the method of operation somewhat since my first published report, I shall only take the time to call to your attention the change in my method of operation. Instead of severing the ovarian tissue completely from its ligamentous attachment, and planting it in the center of the fundus, after removal of the Fallopian tube, I split the horn of the uterus and implant the ovarian structure, reduced in size to suit the occasion, but still attached to its own ligament. By this method the ovarian tissue is nourished by its own circulation until such time as collateral circulation shall give it a better supply. By this method the proper nervous supply to the ovary is not cut off, and should the ovarian tissue subsequently give trouble it is within the cavity of the uterus where it can be quickly reached with a sharp curette and removed without danger to the patient.

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DISCUSSION.

Dr. A. Goldspohn, Chicago—I am glad that Dr. Dudley has again spoken on the subject which he has repeatedly touched on heretofore. In my paper I cite him as one of the recent contributors in this work. The question is not altogether decided. One of the gentlemen in the discussion said he had done it, but had given it up. If such men shall be benefited by these publications, then it is necessary for us in publishing cases to be very particular in observing them and to give the exact details in order that they may carry conviction. I published ninety-seven cases of resection of the ovaries in my paper, the majority of which were carefully examined after an average period of nearly two years, and of the remainder repeatedly. Conclusions were arrived at from accurate statements of the patient in answer to specific questions. Thus, all unbiased parties can judge of the evidence themselves and from their own opinion of the value of the treatment. The Doctor suggests in regard to the indications for operations, that we should naturally consult the wishes of the patient and her general circumstances. That is true to a certain extent. But the physician is supposed to know best what is best for his patient. The only question that is not decided, from the pathological standpoint, is how far dare we go in saving ovarian tissue in cases of actual neoplasm. The universal opinion of all good men who have spoken on this subject is that it is a safe practice in all cases of dermoid cysts. But the question becomes more sensitive when we deal with actual proliferating glandular cystomata of the ovary. The majority of men specify simple, non-proliferating cystomata, not having any papillomata on the surface nor other evidence of malignant disease in the patient.

I make my incision precisely like Dr. Dudley's if there are a number of cysts or if they are deeply located. If single and on the surface, we can enucleate the cyst without incising. If there are multiple cysts it is better to make a longitudinal incision and dissect out the individual cysts or follicles. Any membranous edges of the wound should then be cut away and the wound united.

In regard to the suture material I must differ with Dr. Dudley. I would never use any suture material that is not readily absorbable; not because of its forming abscesses, nor because of any disadvantage in the primary result, but because of the bad secondary results from the introduction of a foreign body into living tissue to remain there indefinitely. There follows a throwing out of round cells, an attempt on the part of nature to carry on war, to eliminate the foreign body, by an extrusion of round cells which form connective tissue, and you have a cirrhotic ovary, a painful ovary. As we can now sterilize catgut perfectly, there is no objection to using it. Great care should be used in regard to how to suture. Avoid many knots. I generally begin at one end, make a continuous row of sutures, see that each one grasps deeply enough to stop the hemorrhage, and then return with a superficial row of coaptation sutures and tie to the original end. You have thus a minimal amount of foreign substance in the ovary, and only temporarily. I look at the thermocautery much like Dr. Dudley does. I have found that the cases suffered from amenorrhea sometimes for a long time after its use. Thermocautery should be used in operating through the vagina and where we are not absolutely certain that the field of operation and all the things coming in contact with it are practically sterile.

Dr. J. Riddle Goffe, New York City—There is no more important subject at the present day than conservative work upon the uterine appendages. Indeed, I go so far as to agree with a member of our profession who declared that the only excuse for the existence of a gynecologist was that he was able to do this kind of work. I go still farther and say that the *raison d'etre* of the gynecologist consists in his power to do conservative work and do it through the vagina. I prefer that route. The reason for declaring myself so positively is because I believe it important to preserve to the woman the faculty of ovulation and the ability to bear children. Some men go as far as to say that the ovary is not the woman and that it is better to get rid of it. I say that the ovary plays a large part in the woman's existence and the possibility of becoming a mother is an extremely important element in a woman's life. By this conservative work we are able to preserve for her the function of ovulation and the possibility of motherhood. Dr. Dudley reports 23 women who have become pregnant after this conservative work. These women were in the position where, if they had not been interfered with, they would have been sterile for the rest of their lives. Even if a woman does not *become pregnant she is free from that nervous storm that so* frequently follows total ablation of the appendages. The principal opposition to this is offered by the general surgeon, who thinks it is better to remove the appendages than to do conservative work and, as he says, not cure the case. That, however, is based on the hypothesis that we do not cure our cases, but as Dr. Dudley tells you, the majority of our cases are cured not only of their symptoms but are also placed in the position where they can go on with their menstrual functions, ovulation and child-bearing. This work involves curing the patient as well as the preservation of function. I have done about a hundred of these operations; eleven of these patients have become pregnant, two miscarrying. Many of them had been sterile for years. I make no distinction in regard to the social condition of my patients, but do conservative work on all of them. In stitching the ovary after exsection, I use silk and my results have been entirely satisfactory. Dr. Dudley, and the gentleman who preceded me, were both opposed to ignipuncture, but I have a patient now that was delivered of a child last September in whom I removed the appendages on the left side, punctured the right ovary seven times with a Paquelin cautery and shortened the round ligaments. She was a young woman, married seven years and never pregnant. Eighteen months afterward she gave birth to a fine baby. One such successful case is compensation for one hundred failures. Indeed, I am more proud of that case in my history book than a thousand ovariotomies.

Dr. W. H. Humiston, Cleveland—I would like to ask Dr. Dudley in reference to so-called sclerocystic ovaries in neurotic subjects that finally suffer pain continuously without any of the ordinary symptoms of inflammation. I wish to know whether this class of patients can be restored by this method of operating.

Dr. Dudley, closing—Regarding the possible fact that I might have been mistaken in my cases reported, I record the condition as compared with that when last seen. I do not mean to say that if they went out and ate heavily, or worked hard, that they would not have pain, the same as any other woman. If they got chilled during the menstrual period they would have pain. I agree with Dr. Goffe in what he says, although I have not operated so many times as he through the vagina. The fact has been that, in the cases I have operated on in this manner, they have had so many things the matter with them that I chose to do the work through the abdomen rather than through the vagina. In these cases I was able to remove the appendages and do multiple operations. Regarding the number of pregnancies, I said I had records of 28 pregnancies, 5 miscarriages resulted, and 23 were delivered at full term.

Regarding the sclerocystic ovary, I never operate on it. These ovaries are pre-eminently diseased, and in one of the six cases I implanted, I think the failure to get a good result was because of the fact that the only ovarian tissue I had was a half of one ovary (the other having been removed years before), and that was sclerotic. This lady suffered from intrauterine pain. I would bar such an ovary from such work. An ovary which shows an absence of its function by the absence of scars, is not suitable for such work. A man is put to the test at the operating table.

ELIMINATION OF PERITONEAL INFECTION AND PREVENTION OF SURGICAL PERITONITIS.*

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The physiologic, anatomic and pathologic laboratories are scientific workshops from which both the physician and surgeon may constantly derive points of the greatest value in the advancement of his science. In fact, the remarkable evolution in medicine and surgery of the past decade is largely based on principles established and accurately tested in the laboratory. Instead, therefore, of the laboratory archives being mere repositories of dry scientific facts, they may be of absorbing interest and incalculable value when carefully scanned by the practical eye seeking suggestions which may be applied in everyday medical and surgical work.

For the last six years all investigations upon the functions and anatomy of the peritoneum have been of constant interest to me, for upon the facts established in these researches we are justified in reversing some of the apparently well-grounded principles in surgery. In 1896, as a result of the combined study of seventeen hundred abdominal section cases, and the review of the literature bearing on the structure and function of the peritoneum, I took radical ground against abdominal drainage as then generally employed, and advocated certain measures which were in direct opposition to principles generally in vogue.

Briefly stated, I strongly favored the thorough irrigation of the abdominal cavity at the completion of an abdominal operation, to remove as far as possible all debris, blood and infectious matter, and then the leaving of a considerable quantity of salt solution—0.6 per cent —in the peritoneal cavity to disseminate and promote rapid absorption. These two terms, "disseminate" and "promote rapid absorption," were radically combated by several writers, for they appeared to be not only unsurgical, but positively dangerous especially when coupled with the postural method of drainage which I then advocated. In other words, the teacher of the past had largely been in favor of a dry peritoneal toilet, and the liberal use of drainage through glass tubes, gauze, etc., whereas this meant the complete reversal of these principles for a very wet technique and the dissemination of the peritoneal debris. Five years have passed since my publication, and from practical experience, laboratory investigations and study of autopsy records, I feel perfectly convinced of my position, and upon the basis of these studies I now reiterate these statements and will detail the various lines of work which sustain these principles.

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* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee of the Section: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

I shall merely epitomize some epoch-making points in the anatomy, physiology and pathology of the peritoneum, and then consider in greater detail a most interesting research on the action of streptococci upon the peritoneum, which will largely be applied in sustaining my position concerning the natural peritoneal method of drainage.

IMPORTANT EPOCHS IN THE ANATOMY, PHYSIOLOGY AND PATHOLOGY OF THE PERITONEUM UP TO 1899.

1874-1876: Histology of the peritoneum described by Rindfleisch, Bizozzero, Tourneux and Paladino, 1883; Ranvier, 1891; Kolossow, 1892; Muscatello, 1895; Byron Robinson.

1876 (Wegner): The peritoneum has an enormous absorbing function, taking up in an hour 3 to 8 per cent. of the entire body weight, as confirmed by subsequent investigators without exception. Through this function the peritoneum is protected against infection.

1896 (Grawitz): In general the statements of Wegner were sustained and he reached the conclusion that: "The introduction of pus-producing cocci into the normal peritoneal cavity produces a purulent peritonitis: 1, if the culture fluid is difficult of absorption; 2, if irritating material is present which destroys the tissues of the peritoneum, and thus prepares a place for the lodgment of the micro-organisms; 3, a purulent peritonitis will certainly be produced if a wound of the abdominal wall is present which forms a nidus for the infectious process." These views were subsequently sustained by Bartscher and Veitzel, 1888; Rinne, 1889; Waterhouse, 1890; Halstead, 1891; Walthard, 1892; Silberschmidt, 1894; Tavel and Lanz, 1893; Wieland, 1895.

1889 (Pawlowsky): Radical views against Grawitz's conclusions were taken as a result of his experiments. A deadly peritonitis may be induced by comparatively small doses of virulent pyogenic bacteria injected into the peritoneal cavity, the lethal effect being still more pronounced under the conditions last named by Grawitz.

1890: Reichel, in endeavoring to settle the controversy between Grawitz and Pawlowsky, reached the conclusion that the infection depends on the virulence of the micro-organisms. The peritoneum may free itself of bacteria of milder infectious properties, but virulent organisms may produce lethal effects. This was sustained by Burginsky, 1891; Alex. Fraenkel, 1891; Kraft, 1891.

1894 (Issaeff): This investigator removed, from time to time, through capillary tubes, fluid from the peritoneal cavity, infected with cholera bacilli, and discovered that shortly after the inoculation the fluid was very poor in leucocytes and the bacteria flourishing; later, however, there was a reversal of this order, the leucocytes gaining the ascendency, and the animal recovering. This was confirmed in a similar research on the typhoid bacillus by Pfeiffer and Kolle, 1896.

1895 (Muscatello): Fluids and solids may pass through the endothelial layer of the peritoneum, the fluids in many places (Recklinghausen, Starling, Tubby, Orlow, Heidenhein, Adler and Meltzer), the solid particles only through the spaces in the central tendon of the diaphragm.

Minute solid particles are carried in an incredibly short time from the peritoneal cavity through the diaphragm into the mediastinal lymph-vessels, and glands, and thence into the blood circulation, by which they are distributed to the abdominal organs, to appear later in the collecting lymph-glands of these organs.

The leucocytes are largely the bearers of foreign bodies from the peritoneal cavity, through the diaphragm into the mediastinal lymph-vessels, and thence into the blood circulation. Large quantities of fluids may be absorbed by the peritoneum in an astonishingly short time.

There is normally a force in the peritoneal cavity which carries the fluids and foreign particles toward the diaphragm, regardless of the posture of the animal, although gravity can greatly favor or retard the current.

Muscatello's experiments confirmed by Byron Robinson, Clark, and others.

1897: Bordet, in testing the effect of Marmorek's antistreptococcic serum in the peritoneal cavity, discovered that streptococcic infection, when not interfered with, is accompanied by the following phenomena: 1. There is a decrease in the number of leucocytes, but within an hour an increase begins, and the polynuclear cells are markedly in evidence. Streptococci decrease in number by being taken up by the leucocytes (phagocytes). The more vigorous streptococci form a repellent zone about themselves and begin to multiply enormously. Six or seven hours later both leucocytes and streptococci occur in myriads, but the leucocytes do not contain streptococci, and many appear impaired or degenerated. The animal dies through ascendency of the streptococci. This was confirmed by Wallgren, in 1899.

Wallgren[1] has taken up the investigation of streptococcic infection of the peritoneum, following the same line of experimentation as Bordet. His work appears to have been most thorough, and the various phenomena transpiring in the course of the infection have been so minutely and vividly described as to give his research the stamp of great accuracy. His article is very extensive, consisting of notes and comments on a long series of experiments. In the following review I have greatly epitomized his statements, endeavoring, however, faithfully to preserve their true sense.

The normal peritoneal lymph contains a few endothelial cells and a considerable number of white blood-corpuscles. The latter are mostly mononuclear leucocytes. Occasionally a polynuclear cell is seen, which, however, is considerably smaller than the mononuclear. Immediately after the peritoneal inoculation large numbers of streptococci may be found in every cover-glass preparation, but within a short time they begin to decrease rapidly in number, and later many cover-glasses may be passed in review before a single streptoccoccus is found. This change is not solely due to the deportation of the micro-organisms from the peritoneal cavity, but to the destruction of myriads within the cavity.

Notwithstanding this decrease, many of the most active and strongest bacteria still survive upon the peritoneal surfaces. After the first hour those remaining are usually found in the form of diplococci or very short chains. They then begin to develop and to form vigorous growing, and in some instances long chains of bacteria. About this time, also, a peculiar zone or halo develops about the streptococci, which has a vigorous repellent or destructive influence upon the leucocytes—negative chemotaxis.

In autopsies on animals dying twenty hours after the injection, large numbers of streptoccoci in active growth were found in the peritoneal cavity. The cyclical events in the growth of the streptococci are influenced by their own virulence, the activity of the leucocytes as phagocytes, and the absorbing ability of the peritoneum.

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[1] Ziegler's Beiträge, vol. xxv., p. 206.

Shortly after the intraperitoneal inoculation the leucocytes which are largely of the mononuclear type collect in groups about the streptococci and develop an intense phagocytic action, and not only the degenerate and weak, but also the strong growing cocci are taken up. This phagocytosis in the peritoneal streptococcic infections is looked upon by Wallgren as a beneficial process, and may be taken as an evidence of protection or a defence of the peritoneum against the further multiplication of the micro-organisms. Within a short time these mononuclear leucocytes, laden with their streptococci, almost completely disappear, and then for a short time the peritoneal fluid becomes poor in leucocytes—leucopenia. This decrease in the number of cells, according to Pierallini, who worked under the guidance of Metschnikoff, occurs after the injection of all fluids into the peritoneal cavity, and is especially pronounced after the injection of physiologic salt solution. According to Metschnikoff, this phenomenon is due to the destruction or solution of the leucocytes—phagolysis. Durham, on the contrary, is of a different opinion, for he believes that the leucocytes become adherent to the peritoneal surfaces. The few mononuclear leucocytes which remain within an hour generally contain altered streptococci, while the free streptococci are in large part well preserved. After one hour the few mononuclear leucocytes which remain are usually degenerated, and contain vigorous-appearing streptococci. About this time the polynuclear and polymorphonuclear leucocytes begin to appear in the peritoneal cavity in large numbers. If the dose of streptococci is large or the micro-organisms are virulent, this phenomenon appears quicker than if the dose is small or the toxic action is attenuated. In the presence of the streptococci these new leucocytes show the same intense phagocytic tendencies as the mononuclear cells, and at once begin actively to take them up.

Six hours after the injection the number of these leucocytes increases markedly, but a multiplication of the streptococci occurs almost in an equal ratio. By this time the bearing of the cells toward the micro-organisms has, however, changed, for now these contestants exist in separate groups, and only here and there are leucocytes found containing streptococci. This cessation of the phagocytosis, at least in the greater part, is due to the fact that the streptococci, through their growth and evolution, acquire the ability to repel the leucocytes—negative chemotaxis.

As an evidence of this negative chemotaxis, the streptococci begin at this stage to show a faint enveloping zone or halo. As time passes the streptococci continue to increase both in virulence and numbers, while in nine hours after the injection the multiplication of the leucocytes is at a standstill. As may naturally be inferred, the animal now begins to develop fatal symptoms.

While in the first six-hour experiments the leucocytes were well preserved, after nine hours marked signs of degeneration were noted, consisting in the disappearance of the cell granules and alterations in the nuclei, in the complete destruction, in some instances, of the cells, and in their coalescence in groups. In a still later stage of the infection the peritoneal fluid becomes poorer and poorer in leucocytes, while the streptococci markedly increase in numbers, and by the time death occurs scarcely one well-preserved leucocyte is found. Likewise, the red blood-corpuscles, which are present in greater or less numbers in the early stage of the infection, have, to a large extent, disappeared or show signs of degeneration.

Wallgren summarizes his most interesting observations in the following conclusions: Small doses of virulent streptococci injected into the peritoneal cavity may, without any special predisposition on the part of the animal, produce a deadly infection. The peritoneum may free itself of a minimum dose of streptococci although the abdominal wall in the immediate neighborhood of the injection is infected. This wound infection plays no active part in the production of the peritonitis. The protection of the peritoneal cavity depends on the activity not only of the leucocytes normally contained therein but on those escaping into the peritoneal cavity, and to a certain extent also upon the endothelial cells of the peritoneum. The leucocytes combat the streptococci through their phagocytic action, through their degeneration products, and possibly also through their secretions—alexins. Phagocytosis occurs early in the infection, but in the latter stage, when the streptococci have acquired the ability to repel the leucocytes, it almost disappears; later it may reappear in the stage when the leucocytes are being destroyed. In the presence of streptococci of decreased virulence phagocytosis progresses without interruption so long as any micro-organisms remain in the peritoneal cavity. Streptococci may destroy the leucocytes. This process manifests itself through the alteration and disappearance of the cell granules of the polymorphonuclear and polynuclear leucocytes. The destructive action appears most marked in the cells which enclose streptococci and about the streptococci most numerously surrounded by these granules. So long as streptococci may be demonstrated in the peritoneal cavity the majority of the leucocytes are of the polymorphonuclear and polynuclear types, although for a short time, immediately after the injection, the leucocytosis consists of the mononuclear type.

In abstracting the points from Wallgren's research which may serve as surgical finger-boards, I consider the following the most important:

1. Great decrease in the number of micro-organisms within an hour, both through their intraperitoneal destruction and through their rapid absorption into the general system where they are dealt with. There is, therefore, no possibility of limiting septic matter through gauze or glass drainage to any free surgical field within the abdomen.
2. Vigorous streptococci which remain behind develop within six hours a repellent or destructive qualtiy for leucocytes, and the lethal fight is therefore inaugurated and well under way before drainage, as ordinarily employed, can possibly exercise any beneficial action. In many cases, therefore, in which drainage is employed, the patient recovers in spite of and not because of it. To assist this eliminating function of the peritoneum the liberal infusion of salt solution is invaluable.

NATURAL METHOD OF DRAINING THE PERITONEAL CAVITY.

As a result of a critical study of Muscatello's most interesting research on the transportation of granules from the peritoneal cavity, which was supplementary to Wegner's investigations concerning the great absorbing function of the peritoneum, I suggested in 1896 a postural method of draining the peritoneal cavity. This consisted in leaving a liter of salt solution in the peritoneal cavity at the completion of the abdominal operation, and then elevating the foot of the patient's bed for twenty-four hours with a view to hastening absorption and thus preventing the stagnation of fluids in the peritoneal cavity. After I had made this suggestion I felt for a time some little trepidation as to its ultimate results, for although I had most efficiently tested it in very severe cases before offering my observations for publication, I nevertheless had some misgivings lest a more extensive experience with such a radical departure might prove it to be disastrous in some cases.

Although at the present time I seldom use the elevated posture I am strongly convinced that no danger is entailed by its use, for I have never seen a post-operative complication which I felt was in the slightest degree attributable to this elevation of the pelvis. My reasons for now leaving the patient in the prone position are that the absorption is almost as rapid, and the churning of the intestines about in the saline fluid after the operation facilitates the distribution of the debris and, therefore, it is more quickly and effectively eliminated.

Another advantage is that the intestines and omentum are floated out into the normal positions. Since the use of peritoneal infusions I have never had a case of post-operative obstruction.

Without qualification, therefore, I am now prepared to say that the routine use of normal salt solution in the peritoneal cavity, under the conditions which I have advocated, is not only free from danger, but is of the greatest value, both as a life-saving measure and as a prophylactic against general or local peritonitis.

TRANSPORTATION OF SMALL GRANULES FROM THE PERITONEAL CAVITY.

Since the publication of my first article, in 1896, I have lost no opportunity to make observations on the method of peritoneal absorption, and lately, in connection with my assistant, Dr. Charles Norris, have carried out a series of experiments to confirm Muscatello's conclusions.

For this purpose we have used carmin, India ink and ultramarine granules, and our results are in entire accord with Muscatello's statements as to the rapidity of transportation of granules from the peritoneal cavity and their method of elimination.

We have found the route of transportation to be the same as that described by Muscatello. Shortly after the injection of the black or red granules the central tendon of the diaphragm, which normally has a ground glass appearance, is intensely colored through the deposition of the granules in the diaphragmatic lymph spaces. From these spaces they are transported through the anterior mediastinal lymph channels, and thence through the thoracic duct, to the vena cava and the right heart. From the heart they are distributed through the blood current, first to the lungs, and then to the liver, spleen, kidneys, intestinal tract, and many of the bodies are also deposited in the bone marrow. During the first hours of transportation, the granules are carried as free bodies by the lymph currents; later, however, they are largely contained in polynuclear leucocytes which may be distended almost to the bursting point.

Our investigations have been conducted with a view to discovering the ultimate disposal of these foreign bodies, for we believe the fate of micro-organisms under similar conditions must be analogous.

In the distribution of the blood the lungs are the first organs to catch a considerable quantity of the granules. So far as I know, investigators have not called especial attention to this point.

The smaller granules pass through the pulmonary capillaries and thence to other organs, but a large number are stopped by the alveolar capillaries and are either deposited in the bronchial lymph glands, or, as we believe, are largely thrown out into the alveoli.

In our investigations we have been struck constantly with the presence of granules in the alveoli, which leads us to believe that these may be common points of exit from the blood for minute foreign bodies and micro-organisms.

The next organ to take up large quantities of foreign bodies is the liver. Here we have been able to trace some granules through the hepatic artery into the capillaries and thence into the biliary ducts, and finally into the gall-bladder. A considerable number of bodies appear also to be expelled through the capillaries of the villi into the intestinal tract, while a considerable number are eliminated through the kidneys.

As to the rôle played by the spleen, we have not reached satisfactory conclusions. We have, however, found that a large number of granules are deposited in the bone marrow.

In all experiments we have examined the marrow of the femoral bones, and in almost every instance, after a few hours, we have found some of the smaller granules in this tissue. In one rabbit the carmin granules were found in this situation within five hours after their deposition in the peritoneal cavity.

I shall not attempt to detail our experiments in this paper, but will make the preliminary statement that the foreign bodies are found, within a very few hours, generally distributed throughout the organs of the body in the following order: In the lungs, then in the liver, spleen and gastro-intestinal tract, then in the kidneys, and finally in the bone marrow and in the lymph glands and dependent parts of the body.

From this investigation we conclude that the lungs, liver, intestines and kidneys are normal points of exit for minute foreign bodies, and under the head of foreign bodies we include all granular debris and micro-organisms left in the peritoneal cavity.

It may appear to some of my readers that the peritoneal infusions of normal salt solution, in cases in which infection is suspected, is to condemn the patient to certain septicemia or even pyemia, through the wide distribution of the micro-organisms. On the contrary, we believe this very action is prevented.

I base my argument on the following proposition: Given a minimum amount of peritoneal infection, it is infinitely better to distribute it at once before the micro-organisms undergo manifold sporulation than to hope for its elimination after it has gained virulent headway through stagnation or clinging to operation fields within the abdominal cavity. By at once distributing a minimum amount of infectious material generally throughout the body, the micro-organisms are promptly placed in the most favorable situations for their destruction and elimination.

Whether we accept the alexin or the phagocytic theory concerning the destruction of micro-organisms, is immaterial, for in either case it is better that the micro-organisms be quickly deposited in the places where these two factors are dominant than to be left behind in the peritoneal cavity, into which the leucocytes and the serum more slowly flow.

ACTION OF STREPTOCOCCI ON THE LUNGS, LIVER AND KIDNEYS.

In my review of the literature bearing on the action of pyogenic micro-organisms when injected into the blood currents, I find some very interesting articles concerning the effect of the streptococci on the lungs, liver and kidneys. As the streptococcus is one of the most pathogenic micro-organisms with which the surgeon meets, and as these three organs are especially involved in the natural peritoneal method of drainage, these recent researches may be most opportunely quoted at this point.

An investigation by Silfvast,[2] on the action of streptococci upon the lungs, is especially interesting. In general, his conclusions are that the lung of the rabbit is relatively resistant to the action of streptococci either injected directly into the trachea or inhaled, and, further in line with our work, that the lungs are still more resistant to the action of streptococci when carried to them by the blood curents. Both with active growing streptococci and with their toxins there is at once a reaction on their entrance into the lungs, as evidenced by a diapedesis of leucocytes, light shedding of the alevolar epithelium and extravasation of lymph. Within fifteen minutes after the intravenous injection, large numbers of leucocytes appear in the alveoli, which at once take up the streptococci and then only a few extracellular micro-organisms are seen. After the second day the streptococci appear degenerated and begin to disappear. In twelve days only a granular debris remains, consisting of degenerated organisms. At this time cultures are negative, and the micro-organisms can not be discovered in microscopic sections. Streptococci of decreased virulence are much more rapidly destroyed, and within twenty-four hours only a few isolated, irregular, badly staining forms are found.

The cells making up the debris in the alveoli consist of epithelium, and polynuclear and large mononuclear leucocytes may also be found in the bronchial lymph glands, where the cocci likewise appear to be destroyed. The largest number of streptococci are destroyed in the lungs, while a certain number are carried away by the lymph channels.

From these experiments it is seen, as stated by Silfvast, that the lungs are comparatively resistant, especially to micro-organisms brought to them by the blood streams. This action is in entire accord with my own observations, for in a series of over three hundred cases in which I have used large quantities of salt solution in the abdominal cavity, which has been rapidly absorbed and quickly poured into the blood streams, and thence to the lungs, I have never seen a serious pulmonary attack, either of bronchitis or pneumonia; in fact in this entire series I have never seen a case of pneumonia. What better practical demonstration can be given of the harmlessness of peritoneal infusions on the lungs?

If as is unquestionably the case micro-organisms pass through the capillaries of the lungs to other organs, what is their action upon these organs? Again, interesting experiments are at hand which give us some insight upon this point.

Von Bonsdorff[3] has carried out a series of experiments to discover whether micro-organisms are excreted by the urine and what action they have upon the kidneys. His results, briefly, are as follows: When large doses of streptococci are injected into the ear vein of a rabbit the bacteria are not at once excreted by the urine. In twenty-four experiments six rabbits showed foci of bacterial nephritis consisting of isolated inflamed points in the cortex. These areas surrounded the walls of the blood-vessels, from whence small foci of bacteria spread outward and involved the surrounding tissue. Except in these cases this investigator says the changes in the kidneys incited by the streptococci are comparatively slight. Besides a very slight grade of cloudy swelling, there was, in some instances, a limited shedding of the epithelium. In lighter infections a slight degeneration of the epithelium was noted. Simple round-cell infiltration or well-marked general nephritis was never observed.

When cultures of streptococci were obtained they were discovered on section in the glomeruli, less frequently in the intertubular capillaries, especially of the cortex, and very seldom within the uriniferous tubules. In the intracapsular space around the Malpighian bodies no bacteria were found.

From these investigations, which as yet are not completed, it would appear that the streptococci are not excreted by the normal kidneys, and that they occur in the urine only after structural lesions are induced. As an incidental remark I may say that other investigators have claimed that micro-organisms are quickly excreted by the normal kidneys. While my investigations are entirely too meager to decide this point, I incline to the latter view. Whether they are actually excreted or destroyed in the kidneys, and then excreted, matters little.

The chief point in this research, which is of value in my discussion, is that notwithstanding the fact that large doses of streptococci have been introduced into the blood, comparatively slight structural lesions have occurred in the kidneys in the large majority of cases.

Björksten[4] has carried out similar investigations to discover the action of streptococci upon the liver. In his experiments he has injected cultures of toxin directly into the liver and has studied the action of the micro-organisms when deposited in this organ through the blood currents. As would naturally be expected, injections directly into the liver usually cause marked reaction and the animal finally dies as the result of infection. The animal, on the other hand, stands intravenous injection very much better. The results of the latter injection were shown in a general wasting of the animal rather than in local disturbances of the liver. In autopsies on animals dying during the course of the infection, the liver appeared to be somewhat over-filled with blood, and on its surface small yellow spots were noted. The peritoneum appeared perfectly normal, sometimes, however, somewhat moistened and glistening. Until the tenth day streptococci can be, as a rule, obtained in culture from the liver. Many times, however, the cultures from the bile were sterile. After thirty days the cultures both from the liver and bile were invariably sterile.

This investigation is entirely too limited to arrive at any sweeping conclusions in our work, but it appears to conform in a general way with the foregoing investigations upon the lungs and kidney. If, therefore, I were to formulate a provisional working statement from these investigations, and from my practical experience in the use of saline injections into the peritoneal cavity, it would be as follows: The normal lungs, liver and kidneys may withstand and eliminate comparatively large quantities of infectious matter when carried quickly from the peritoneal cavity to these organs. It is the continued action of infectious matter, carried hour after hour from a generating focus in the peritoneal cavity which works destructively on these organs, and secondarily on the general system.

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[2] Die Wirkung der Streptokokken und ihrer Toxine auf die Lungen; Ziegler's Beiträge, vol. xxv, 1899.

[3] Experimentelle Untersuchungen ueber die Ausscheidung der Streptokokken durch die Nieren; Ziegler's Beiträge, vol. xxv.

[4] Die Wirkung der Streptokokken und ihrer Toxine auf die Leber.

PATHOLOGIC CONDITIONS ARISING SECONDARILY FROM PERITONITIS.

In order to reach some conclusion as to the action of infection matter upon the lungs, liver and kidneys, when transported from the peritoneal cavity through the diaphragmatic lymph spaces to the general blood currents, we have analyzed the autopsy notes in thirty cases of peritonitis. These notes have been taken at random from the files in the pathologic laboratory of the Johns Hopkins Hospital, and include cases arising from typhoid perforations, perforations of gastric ulcers, postoperative peritonitis following such operations as salpingo-oöphorectomy, appendectomy, gastro-intestinal anastomosis, etc. In the majority of these cases we have found characteristic conditions within the lungs which are in accord with those noted by Silfvast in his experimental work, and those found in our own experimental investigations.

Our attention had been especially called to the appearance of the lung in rabbits, killed at various stages of the experimentation after the injection of foreign bodies. On comparing these observations with the autopsy records in the peritonitis cases, we found almost identical conditions. These changes are also in accord with those described by Silfvast in the preceding pages. In many autopsy records of patients dying of peritonitis, the notes on the histologic examination of the lungs are follows: "Blood-vessels enlarged and engorged, cells of air sac somewhat thickened and edematous; in many places alveoli are packed with coagulated fibrin, polymorphonuclear leucocytes, large mononuclear leucocytes, epithelial debris and more or less red blood-corpuscles. Also, in many instances, bacteria are found in large numbers free in the alveoli."

In some cases, notwithstanding the fact that large numbers of micro-organisms have been poured into the general system through an extensive peritonitis, the kidneys and liver appear frequently to be comparatively normal and, structurally, are slightly or not at all impaired.

No doubt those who dissent from my theory as to the natural method of eliminating peritoneal infection may see in these notes an argument against it. As I have already stated, however, it is to prevent this very condition that I have advocated the liberal use of salt solution in the peritoneal cavity. My object in using the peritoneal infusions is to free the peritoneal cavity as rapidly as possible of a minimum quantity of infectious matter and debris, which the lungs, liver, intestines and kidneys may eliminate without functional or anatomical disturbance, rather than to trust to inefficient surgical drainage, or to wait until this minimum number of organisms have generated into myraids which are poured into these eliminating organs day after day,, and thus ultimately so impair them as to destroy the patient's life. With the use of the salt solution in the way which I have described, it does not produce any serious complications or after-effects, as shown by the long series of cases of which I now have careful notes. In one hundred and fifteen operations, performed at the University and Presbyterian hospitals, only three deaths occurred. Of the fatal cases one patient was practically moribund from purulent peritonitis arising from a perforated appendix, when she was taken to the operating-table, and the operation was only performed as the last possible chance of saving her. That the salt solution did neither good nor harm in this case is certain, for the patient died within twenty minutes after leaving the operating-table.

The second case, of extensive cancer of the uterus, operated upon one day, died within twenty-four hours from pulmonary embolus. In this case no salt solution was left in the peritoneal cavity, on account of the open pelvic diaphragm produced by the hysterectomy.

In only one case of this series in which salt solution was used could there be any question as to its rôle as a provocative factor in the ensuing peritonitis. This was a large myomatous tumor extensively adherent to the bowel. During the operation the bowel was lacerated in two places but was carefully sutured. Only a small amount of salt solution was used in this case. Within twenty-four hours the patient became excessively tympanitic and died shortly afterward. Unfortunately, no autopsy was permitted in the case and we therefore do not know the real cause of death. From the rapid collapse and excessive tympanites, it is possible that the intestinal sutures gave way or that there was a fulminating streptococcic infection. In all of the remaining cases quantities of salt solution varying from 500 to 1,300 c. c. were left in the peritoneal cavity.

A recent report by Dr. Hunter Robb of 114 abdominal sections without a single death goes far to prove two points, at least, upon which I insist, first, drainage is superfluous in all but a minimum percentage of abdominal section cases; and second, to say the least, peritoneal infusion and irrigations, even if not beneficial, are not harmful, as insisted upon by many opponents of this method. Dr. Robb and Dr. Griskey were the first investigators in this country to systematically study the bacteriologic side of drainage, and as a result of their work they insisted that the employment of glass drainage-tubes was dangerous rather than beneficial. In the final steps of his technique, Robb says: "After every abdominal section the abdomen is thoroughly washed out with sterilized salt solution, after which from 300 to 500 c.c. of salt solution are left in the abdominal cavity and the patient is placed, with the head low, in the postural position for drainage for twenty-four hours." In all of his 114 cases thus treated the patients recovered. Such a splendid series of cases as this is a very telling argument in favor of the points which I am endeavoring to establish.

ADDITIONAL ADVANTAGES OF PERITONEAL INFUSIONS.

If the salt solution has no deleterious or harmful effects, what are its other beneficial effects?

These I may briefly state as follows: 1. In case of shock from loss of blood it is one of the best general stimulants. Time and time again, in operations where the pulse has been as high as 160, and weak and thready at the completion of the operation, I have seen it drop to 120 or lower within three hours, and become full and regular.

Another great advantage to the patient, derived from its use, is the large increase in the urinary excretion. In 1896[5] I described a method for the prevention of thirst after abdominal operations. Briefly stated, this consisted in the high injection into the sigmoid flexure, with the patient in the Trendelenburg posture, of one liter of salt solution. In comparing two series of cases, one with and one without the saline enemata, I found a striking quantitative difference.

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[5] Am. Jour. of Obst., vol. xxxiv., No. 2, 1896.

The urine of the cases in which the saline solution is given usually presents a normal color, and where more than 900 cubic centimeters are voided in the first twenty-four hours it may even have the clear, limpid appearance of a urine deficient in solid constituents.

The average daily quantity of urine excreted for the first seven days after operation, in the two series of 100 cases each, is as follows:

With Saline Enemata.		Without Saline Enemata.	
First day,	752 cubic cm.	First day,	481 cubic cm.
Second "	626 " "	Second "	505 " "
Third "	605 " "	Third "	498 " "
Fourth "	635 " "	Fourth "	550 " "
Fifth "	595 " "	Fifth "	654 " "
Sixth "	672 " "	Sixth "	656 " "
Seventh "	646 " "	Seventh "	591 " "

The first series of 100 cases shows an average of 752 cubic centimeters at the end of the first twenty-four hours, while the second shows but 481 cubic centimeters.

A point which I also emphasized was the equalization of solid constituents of the urine. Dr. W. W. Russell had previously called attention to the frequency of vesical irritation in post-operative cases, and attributed it to the retention of small quantities of highly concentrated urine in the bladder, which possessed more than a normal amount or organic elements with a greatly decreased watery diluent.

After the adoption of the method just referred to, vesical irritation became much less frequent and catheterization after operation was necessary in less than one-half of the cases. The specific gravity of the urine dropped to normal, whereas, in the cases without enemata, it ranged between 10.25 and 10.30. This study demonstrated that the quantity of urine can materially be increased by saline enemata. Since then I have made similar analyses of the urine in cases after saline infusions into the peritoneal cavity, and find that the quantity of urine is likewise increased and that vesical irritation is greatly alleviated or almost unknown in these cases. What practical conclusions may we draw from these phenomena?

Flexner has shown, in a magnificent research on terminal infections, that many patients with chronic disease, especially of the kidneys, die of some insignificant terminal infection, and that the primary disease itself really does not terminate their lives. If, therefore, in abdominal cases, the kidneys are also impaired, as is not infrequently the case, especially in chronic pelvic inflammatory cases and large tumors, the increased irritability from concentrated urine, combined with micro-organisms, which may be introduced or left in the peritoneal cavity and either they or their toxins will inevitably be carried, regardless of any measure which may be employed to prevent this action, into the general system, the safety of the patient may be endangered from these terminal infections.

To increase, therefore, the functional activity of the kidney and prevent the concentration of the urine, is, unquestionably, a very potent factor in assisting and hastening the recovery of the patient. This, without doubt, is promoted by the use of these saline infusions into the peritoneal cavity.

One of the very gratifying results of this method is the lessening of the severe thirst from which the majority of abdominal section cases so severely suffer. Many times, after the use of large quantities of salt solution, the patient will go as long as twelve hours without asking for water. In some instances, there is more or less thirst, but seldom, if ever, is it so severe as in cases treated in the older way.

A factor which largely promotes peritoneal absorption and facilitates the absorption of lymph in the peritoneal cavity, is active peristalsis. I hold, therefore, that after operation the more vigorous the peristalsis the more certainly will our patients be protected from infection. After the use of salt solution as I have described, I find that the bowels are much more easily acted upon by laxatives. Following the suggestions of Newman and Ramsey, I make it a rule to administer the cathartic the night of the operation, and if the bowels have not acted the next morning, to give a simple enema, and if not effectual, follow it by a more active stimulating one. Under this plan, marked tympanites is a very rare complication after operation.

There is one objection which may be offered to the saline infusions, but in no case have I found it to be serious. Within the first twenty-four to thirty-six hours after operation, patients not infrequently complain of distress over the diaphragm, similar to a pleuritic pain. There may also be a tendency to gastric and colonic distention. In no instance, however, have any of these conditions been obstinate or of long standing and they invariably have passed off without ill effects to the patient.

To offset the discomfort produced by the diaphragmatic pain, my rule is to strap the base of the chest, as soon as the patient complains of it, with a 2-inch strip of adhesive plaster, in order to limit the diaphragmatic movements. This will frequently give almost immediate relief. I attribute this pain to a simple increase in functional activity of the absorbing areas of the diaphragm. It is certainly not due to pleurisy or peritonitis, for it has invariably passed off in a short time, and in no instance have signs been discovered indicative of either of these conditions.

In order to further supplement the action of the salt solution in the peritoneal cavity, it is my invariable rule in all abdominal section cases to use the saline enemata while the patient is still in the Trendelenburg posture.

The chief tenet in my argument is based upon the enormous and rapid absorbing function of the peritoneum, which absolutely precludes the possibility of limiting to any surgical field in the peritoneal cavity, septic matter or micro-organisms.

Accepting this hypothesis as proved, I link my next basal theory to it, as follows. Given an infection at the time of operation, it is infinitely better to promote its rapid elimination from the peritoneal cavity than to retard it or attempt to definitely localize or remove it by surgical drainage.

CONCLUSIONS.

1. The peritoneum has an enormous absorbing function, being capable of taking up 3 to 8 per cent. of the entire body weight in an hour.
2. Minute solid particles are caried in an incredibly short time from the peritoneal cavity through the diaphragm into the mediastinal lymph vessels and glands, and thence into the blood circulation, by which they are quickly distributed to the abdominal organs and to the bone marrow.
3. The granular bodies are at first largely transported as free bodies, swept along by the lymph currents, but later the leucocytes act as the carriers.
4. There is, normally, a force in the peritoneal cavity which carries fluids and foreign particles toward the

diaphragm, regardless of posture, although gravity may greatly favor or retard the current.

5. After the introduction of micro-organisms into the peritoneal cavity, there is great decrease in their number within the first hour, both through their intraperitoneal destruction and through their rapid absorption into the general system where they are dealt with. There is, therefore, no possibility of limiting free infectious matter to any part of the peritoneal cavity by mechanical means.

6. Vigorous streptococci which remain behind, develop, within six hours, a repellent or destructive quality for leucocytes, and the lethal combat is, therefore, inaugurated and well under way before drainage, as ordinarily employed, can possibly exercise any beneficial action. In many cases, therefore, in which surgical drainage is employed, the patient recovers in spite of and not because of it.

7. A moderate amount of even virulent organisms, carried by the blood to the lungs, liver, spleen, kidneys, gastro-intestinal tract and bone marrow, may be destroyed or eliminated without the least harm to the patient, whereas, if the same amount of infectious matter is detained about a surgical field in the abdominal cavity, or stagnates in a dependent pocket, they may generate myriads of others, and thus overwhelm the patient.

8. In many cases, therefore, drainage, as ordinarily employed, is superfluous, or even dangerous, and the rational method is to remove all possible débris and infectious matter by thorough irrigation and then leave one liter of salt solution—0.6 per cent.—in the abdominal cavity, and in order to promote and hasten natural drainage, supplement this by an enema of a liter of salt solution, given while the patient is well under anesthesia and in the Trendelenburg posture.

9. Under this plan the patient is greatly stimulated, shock is minimized or averted, the urinary excretion is greatly increased, and thus toxic matters are more easily eliminated without irritation to the kidneys or bladder, peritoneal infection is quickly eliminated while yet minimum in amount, thirst is alleviated or entirely prevented, intestinal peristalsis is promoted, and consequently tympanites is of less frequent occurrence, and the early action of the intestines evacuates infectious matter thrown out into this canal by the blood-vessels of the villi.

All of these factors combine to reduce mortality after abdominal sections, to decrease pain, discomforts and complications of the first forty-eight hours, and finally to hasten the recovery of the patient.

CASES IN WHICH PERITONEAL INFUSIONS MAY BE DANGEROUS, AND THEREFORE SHOULD NOT BE EMPLOYED.

1. Ascites accompanying the surgical lesion, which indicates that the natural peritoneal drainage is already deficient; therefore, to add an additional burden through the saline infusions, is not advisable.
2. General purulent peritonitis.

CASES IN WHICH GAUZE PACKING MAY BE INDICATED.

From a critical review of all classes of drained cases, I feel justified in greatly reducing the conditions in which gauze packing may be indicated.

Since the publication of my review[6] of 1700 cases of abdominal sections from the standpoint of intraperitoneal drainage, I have seen no reason to change my indications for gauze packing. I discard the word "drainage" purposely, for I do not believe the gauze is of any great service as a conducting medium, but simply acts as a plug to keep the external opening patulous and prevent the closure of the drained area by normal granulation tissue. Even the conditions enumerated below may be reduced to a minimum by the most painstaking technique. It is in these cases that the greatest skill is shown, and an evidence of this skill is the absence of gauze packing or other surgical drainage.

The following conditions are quoted from my former article:

1. In appendicitis when the peritoneum and tissues adjacent to the appendix are infiltrated with inflammatory products, preventing a secure closure of the stump after amputation of the appendix, and when the appendix has ruptured and either caused a localized abscess or a general peritonitis. If the operation can be performed early, when the inflammatory process is confined to the dependent portion of the appendix, *never drain.*

The objections to drainage in these cases are probably not as great as when the gauze is introduced deeply into the pelvis, because the site of the operation is more superficial and therefore the possibility of effecting true drainage is better; but if a clean operation has been performed the drain is superfluous. A distinct objection to drainage in the appendical area is the liability of post-operative hernia occurring in its track.

2. Localized collections of pus in the pelvis: In these cases either the abscess sac should be enucleated cleanly, and the abdomen closed without surgical drainage, or it should not be opened through the abdomen if it is too adherent to be enucleated safely. These cases are, *par excellence,* the ones for incision and drainage through the vagina.

3. Suture of intestine: A drain should only be employed when there is doubt concerning the integrity of the suturing.

4. Excision of fistula leading from the intestine to the abdominal wall: In these cases it is safer to pack a gauze drain down to the sutured areas in the intestine, for they are especially prone to break down and re-establish the track. In case this accident occurs the gauze forms a safe avenue for the escape of fluids and gas, and the subsequent contraction of the drainage track may close the intestinal fistula.

5. Purulent peritonitis: Pawlowsky has shown that the usual avenues for the absorption of fluids from the abdominal cavity are closed in purulent peritonitis, consequently, we can only endeavor to supplement them by thorough irrigation of the abdominal cavity and free drainage. In order that the drain shall serve the best purpose it should be a large one, and, if necessary, in addition to a central opening in the abdomen, lateral openings in the flanks as advocated by Dr. Kelly, may be made. The prognosis in these cases is always grave, but this method of treatment gives the patient the best chance of recovery.

DISCUSSION.

Dr. Frederick Holme Wiggin, New York City—I have been specially interested in this paper because about 1889 I came to the conclusion that the technique employed at that time in abdominal operations, namely, the cleansing and drying of the abdominal cavity after operating with sponges, was wrong, as intestinal adhesions followed by obstruction occurred frequently and patients often died a year or two after their apparent recovery from the abdominal operation, from intestinal obstruction resulting from adhesions caused by the manipulations at the time of the operation. With a view to preventing the occurrence of this difficulty, I began to wash out the abdominal cavity with hot normal saline solution instead of sponging out the cavity as formerly, and then to leave a quantity of this solution in the abdominal cavity, closing the abdominal wound without damage. I also found that this might be done even in those cases where there was pus, provided the source from which the pus was derived could be removed, even if some of the septic matter had been spilled in the peritoneal cavity in the course of the operation by using some peroxid of hydrogen to disinfect it.

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[6] Am. Jour. of Obst., vol. xxxv, No. 4, 1897.

I called the attention of the profession to these points in a paper read before the Alumni Association of Bellevue Hospital in November, 1893, the paper being afterward published in the *New York Medical Journal* for Jan. 20, 1894, in the following words: "The use of hydrogen dioxid in full medicinal strength for the purpose of disinfecting the general peritoneal cavity. The closing of the abdominal wound, leaving the peritoneal cavity full of hot, sterilized salt solution, the object of this being to lessen shock, to prevent adhesions, to aid in the readjustment of the intestines and omentum to their proper positions, to lessen the danger of septic peritonitis, and to aid by osmosis the action of the bowels." I have had no reason to change my original views on this matter. I am positive that the low rate of mortality in my work has been due largely to the use of the saline solution and to peroxid of hydrogen. The saline solution left in the abdominal cavity not only in my opinion tends to lessen the danger of septic peritonitis, but also makes the patient much more comfortable, increases elimination through the skin, kidneys and intestines, and also, I believe, lessens the danger of the forming of intestinal adhesions.

Dr. W. H. Humiston, Cleveland, Ohio—I well remember in 1896 when Dr. Clark first published his monograph on this subject, and what a comfort it was to me. At this time I operated upon a bad case of tubo-ovarian abscess, and in separating the adhesions ruptured the abscess and soiled the peritoneum. The surroundings of the patient were such, and not having a graduate nurse in charge, I felt it safer, after thoroughly flushing with normal saline solution, to close the incision without drainage. At this time Dr. Clark's able paper came and you may rest assured I read and reread it with great profit and no little comfort. I watched my case closely, and I state that in quite an extended experience in abdominal surgery I never saw one recover with fewer unfavorable symptoms. From that time to the present I have not drained 2 per cent. of my cases. The principles that Dr. Clark has established have not been successfully combated. In my humble way I desire to endorse the position he has taken.

Dr. Howard A. Kelly, Baltimore—Retrospection is pleasant when it shows progress, and I know nothing in which the progress of abdominal surgery has been more marked than in the matter of drainage. The entire status of the subject is changed. In the early eighties from 75 to 90 per cent. of all cases were drained by means of a little glass tube. This percentage was gradually reduced to 20 and 30 or even lower. In my own work I had largely given up drainage when Dr. Clark then took hold of the question, analyzed it, and put our work on a more scientific basis. Since I have been confirmed by this work I have never used drainage, except in cases of general septic peritonitis following appendicitis of persistent capillary hemorrhage from the pelvic floor and walls. I do use gauze occasionally in the abdomen, but not for the purpose of drainage. Drainage implies a continuous outward discharge of fluids used to prevent an inward accumulation. What I do now in cases of septic foci which can not be removed, or where there is burrowing, is to wall off the infected area with a loose gauze pack. I use "sequestration" and not drainage. I shut off these diseased areas, which can not be extirpated, until the intestines have thrown out a protective barrier, shutting off the rest of the peritoneal cavity. Such a drain ought to be left in 6 or 8 days. Please remember then that sequestration and drainage are different principles.

Dr. J. M. Baldy, Philadelphia—It seems to me that sometimes small details will turn men away from the real truth, which is at the bottom of a general principle. What has been said in regard to the infrequency of drainage at the present time is all true, but what is given us by the reader of the paper as the cause? The leaving of salt solution in the abdominal cavity to be eliminated by the peritoneum, thus preventing or removing septic material and germs. It would seem that the change from the old method of drainage to the new method of non-drainage must have been made with some object and with some good reason. Perhaps there is something in the statement that the leaving of salt solution in the abdominal cavity has had something to do with this. Long before the gentlemen at Johns Hopkins ever gave this subject a thought, while they and I and everyone else were draining 70 to 90 per cent. sections, I watched Dr. B. F. Baer, of Philadelphia, closing cases without drainage that made my hair stand on end. I felt positive that they would die inside of twenty-four hours from sepsis and could hardly believe my eyes as I saw these cases get well. Ever since that time I have given up the drainage tube. All this was years before leaving salt solution in the abdominal cavity was heard of, and before Dr. Clark's first paper on the subject was written. I never leave fluid in the abdomen, and I will place my statistics, books and hospital records beside those of Johns Hopkins, or any other institution in the world, and if they can show me any difference I will believe it is the fluid they leave in the abdominal cavity which brings about their better results. I do not believe, however, that the fluid in that cavity has anything to do with the saving of the patient. We all know that the vast majority of these cases are non-septic. If you smear streptococci into the abdominal cavity, you can flood it with gallons of water and drain and drain, and the case will inevitably die. It is to a large extent a matter of luck, because it is impossible, on the operating table, to tell the character of the pus. If the pus and fluid be wiped away carefully, and the cavity cleared of debris and well cleansed, the peritoneum being stitched over all raw surfaces, there will be no complaint of results. The fluid that is left has nothing whatever to do with the result. The fact that Dr. Humison had one case in which he left the fluid get well is hardly worth considering—one swallow does not make spring. I have had hundreds get well without fluid. Before these illogical claims can be allowed you must reconcile my statement of results (where no solution was left) with those of the gentlemen who leave salt solution; and you must explain to yourself and me why as many of mine get well as theirs.

Dr. J. Henry Carstens, Detroit—Years ago I read of experiments made in Germany with indigo dye, which demonstrated that the tendency of fluid in the abdominal cavity was to go down to the cul-de-sac. Therefore, when I read the description of Dr. Clark's work, I was surprised. I thought that it was very strange, if we want to drain from the peritoneal cavity, to drain high. I did not know where I was at, and I don't know now. I agree with Dr. Baldy that there are two sides to this question. I want to criticise one thing in the paper. He says that it did not make much difference when you spilled pus into the peritoneal cavity, because you can wash it out afterwards. That is bad surgery. If you can prevent a single drop of virulent or attenuated pus from getting into the peritoneal cavity, you should do so. If I have a peritoneal cavity from which I have removed a pus tube, I have a surface which is raw and the cavity around it more or less contaminate with pus. Suppose the tube ruptured. The rectum is on one side, the bladder lies in front, and the two come together and prolapse when you put the patient into the horizontal position. Remember that you have a raw surface. Inside of a few hours these parts are all agglutinated, they are solid, and the peritoneal fluid can not wash this septic material up to the diaphragm, and you can not have it absorbed by the diaphragm, the liver, or anything else. We know that the abdominal cavity is walled in; the walling process starts in within fifteen minutes after the operation. Therefore, if I put a little tube down here in the vagina, and let this septic material run out, if there is any, I claim that I am doing the best kind of surgery. It all depends upon the kind of peritoneal fluid your patient has. It may be thin, like water, and no agglutination takes place. When I have a septic case in which union does not take place, I know that the peritoneal fluid is thin, and my septic material runs all over the peritoneal cavity and the patient dies. I would like to ask the Doctor why, in a case that has good plastic lymph, he puts in a lot of fluid and washes the septic material up near the diaphragm, and on to the stomach and liver, when it would otherwise never get there. This question must be considered carefully, and from both sides. I think the Doctor is correct in his investigations, and that there is something in it, but I hold that it is better to have your peritoneal cavity absolutely dry than to be throwing a quantity of fluid into it.

Dr. William H. Wathen, Louisville, Ky.—My experience leads me to believe that the suggestion of Dr. Clark is not in the interest of our patient. I have not drained through the abdominal incision, nor in an abdominal operation, for three years. Neither have I put any kind of liquid into the cavity. Instead of that, I have been scrupulously careful to wipe away all the fluid I could find, whether blood or pus, and have closed the cavity without drainage. My results have been better. I have had less peritonitis, less distention of the abdomen, a lower mortality, and patients get well more rapidly. The liquid put into the abdominal cavity by Dr. Clark is all absorbed within a short time, and that is the last of its influence. Therefore, if it has any influence at all, it is only temporary, whereas the germs may develop for an indefinite length of time. I do not think the explanation he gives will justify the conclusion that a condition is produced within this short period that makes the germs less virulent, or which increases the resistance of the peritoneum to the germs. I believe the time will come when everybody will wipe away all the liquid and leave the cavity dry. Where there is fluid that is absolutely septic, and septic matter or tissue which can not be removed, we introduce gauze as a protection against drainage. We want to isolate these poisons and prevent the diffusion of the germs throughout the system. This question must be decided by individual experience.

Dr. John B. Deaver, Philadelphia—I should like to raise my voice against the question of doing away entirely with abdominal drainage. I am sure that these gentlemen who close up their cases, like Drs. Kelly and Clark, do not have the cases of bad infection. I am sure, furthermore, that if you fill the abdominal cavity with salt solution, and allow it to diffuse, in cases of bad infection, you leave the last state of the patient worse than the first. I have had sufficient experience in dealing with pelvic operations to contrast and draw comparisons between the sepsis of pyosalpinx and appendicitis. You can rupture a pus tube and fill the peritoneal cavity with pus, and your patient will get well in spite of you. That may be an explanation why many of these cases get well. On the other hand, if you rupture an appendiceal abscess and spread the infection in the peritoneal cavity, every one of your patients, with few exceptions, will die. I therefore raise my voice against what I call bad teaching, even if it is done by the gynecologists. The surgeon who surveys the entire field, and does not limit himself to gynecology, has a right to raise his voice against bad teaching. I open the abdomen and survey the abdominal cavity with my finger. Then I place the patient in the Trendelenburg position, pack off with gauze, put them down and enucleate. If I am unfortunate in bad cases, and no man can enucleate pus tubes without rupturing some, I irrigate the pelvis, wipe it dry, remove the gauze, close the cavity, and my patients all get well. Where I can thoroughly dry the pelvis I do not drain in the pus tube cases, but where I can not I do drain. In the presence of considerable oozing I drain. I am not foolish enough to trust to the peritoneum that which the surgeon should accomplish. The use of the Fowler position I strongly advocate. I believe I have stood by the patient's welfare better than the gynecologist who flushes the peritoneal cavity with salt solution. As Dr. Carstens has said, it is not over fifteen minutes before it is all absorbed, and consequently it has nothing to do with the getting well of the patient. I have seen some of the most fearful forms of suppuration in the abdominal cavity, and therefore will always advocate practice versus theory.

Dr. Seth C. Gordon, Portland, Maine—I agree fully with the speaker that a surface abscess should be drained. An appendiceal abscess is a surface abscess, and it has nothing to do with the pelvis. Every such case I would drain. For a good many years I have not drained. When I took this stand at the Detroit meeting, a very good friend of mine said he should like to know where this gentleman comes from that he never drains. I told him, adding that I would be glad to show him how to do abdominal surgery without drainage. If you have septic material there, you can not take it out with a glass drainage tube, because these streptococci will not hustle to get to the outside through that little glass tube. In fact, the moment you put in the drainage tube you prevent these germs from getting out. Therefore, if you are not positive that you have your case aseptic, your drainage tube will not help it. If it is aseptic, you do not need the tube.

I do not endorse Dr. Clark's idea of filling up the pelvic cavity with fluid. I do not think it counts in producing good results. I do believe, however, that saline infusion allays the thirst and influences prompt action of the kidneys.

Dr. J. Wesley Bovée, Washington, D. C.—I think this discussion would be a great deal more interesting to us if these gentlemen taking sides will give us their experience with salt solution in the abdominal cavity. My belief is that many of them, especially those who are strong in their opposition, have never used it. Dr. Clark did not say to fill the abdominal cavity with fluid. He simply advocates washing out and leaving a small amount behind.

Dr. W. O. Henry, Omaha, Neb.—Until about three years ago my experience in the matter of drainage was like that of most of you. I believe it wise to drain in some cases where we are in doubt. I think it would be a serious mistake for us to say never drain in abdominal or pelvic cases. In regard to the use of saline solution, I have used it for several years in some of these cases, leaving it in as recommended by some one several years ago. I flushed the abdominal cavity, got out all the pus I could, and left in a quart, or even a larger amount in some cases, but my results were not satisfactory. I then left off both flushing and draining. I wall off my pelvic cavity or appendix, wipe out the pus, flush the cavity, dry it carefully, and close it up, and I have gotten the best results. While I believe that Dr. Clark's paper is a valuable one, I can not agree with his conclusions, and I would not use either drainage or general flushing in a very large majority of these cases.

Dr. Gustav Kolisher, Chicago—The practical value of Dr. Clark's conclusions can be easily judged by the statements of Drs. Kelly and Baldy. Dr. Kelly himself said that he did not use the so-called drainage simply because we are really unable to drain. Everyone who knows what becomes of the intestinal surface in the proximity of a so-called gauze-drainage knows that this packing does not drain, but enhances and perfects the formation of adhesions around the infected area. Dr. Baldy quite rightly challenges Dr. Clark to prove that his results are better than Baldy's and of those operators who follow his conviction.

The procedure of leaving salt solution in the peritoneal cavity was put to an actual test about nine years ago in Schauta's clinic. If in removal of a pyosalpinx the tube burst, we examined at once, and we drained, as the usual term is, in all cases where streptococci were to be found, and closed up without packing when we did not find them. Our results, however, did not improve much in spite of this drainage. So it was given up, and Herzfeld suggested, because difficult pyosalpinx operations take a long time, not in order to disinfect the peritoneum, but to give the patient a chance to absorb fluid as rapidly as possible, to put about one quart of salt solution in the abdomen in such cases. The results, however, were just the same. The patients who became infected with virulent streptococci died salted or non-salted.

Dr. Clark is unable to give us any proof of his statement that all the peritoneal lymph currents sweep toward the diaphragm. For that reason his conclusion is without foundation. It is necessary to distinguish between the superficial currents on the peritoneal surface and the current which circulates in the subperitoneal tissues. If Clark's statement would be true there would not be any circumscribed or isolated infection in the peritoneal cavity. And we see cases of circumscribed infection operated in Trendelenburg position, where the force of gravity trends toward the diaphragm, and the infection remains circumscribed. According to Clark's statements, we leave fluid in the peritoneal cavity in order to enable the peritoneum to dispose of the bacteria as quickly as possible. One method for isolating germs is to dilute their medium. If Clark's theory is correct, what would we do but transplant the germs all over the peritoneum and give them a much better chance to produce an extensive infection. On the other hand we know that if we inundate the peritoneal cavity with fluid the absorptive power of the peritoneum is greatly reduced. Thus, premises and conclusions of Dr. Clark's theory are wrong. The only thing that we can gain from a rapid absorption of the saline fluid is an improvement of the action of the patient's heart, and a quicker elimination of toxins through the eliminatory organs. If Clark could prove that out of a certain number of cases, where virulent peritoneal infection was proven by microscope, culture and inoculation, he saves a greater percentage than other operators, then we could positively determine that his method saved patients who otherwise would have died.

As long as he can not prove that, I do not believe in his theory, his method, nor this saline monument.

Dr. T. J. Watkins, Chicago—Dr. Clark's paper is based almost entirely upon two statements: One, the direction of the lymph current, and the other, that it is impossible to localize septic matter in the peritoneal cavity. The latter statement I do not believe to be true, because we have all seen cases of localized pelvic suppuration without any general manifestations of sepsis. Therefore, I firmly believe that if Nature can localize septic matter in the pelvic cavity, we can, by the aid of Nature, use gauze for the purpose of quarantining septic and necrotic tissue in the peritoneal cavity. As to the lymph current, I fail to see the practical application, for I do not believe that the lymph current is strong enough to overcome the effect of gravity, which causes fluids to flow into Douglas' cul-de-sac. In the study of abdominal drainage the lymph current, if not of much importance, as drainage, can have but little effect upon the lymphatics. Most that can be accomplished is: 1, To quarantine septic and necrotic tissue; and 2, to guard against the accumulation of bloody serum, which is an excellent culture medium for most bacteria.

Dr. Palmer Dudley, Chicago—I have had sufficient experience with both saline solution and with drainage to warrant holding an opinion. It is a well-known fact that the peritoneal sac is a balancer of the circulation. If you infuse two quarts of saline solution into the right vein of the circulation and open the abdomen afterward, you will find the excess in the peritoneal cavity as a free solution. If it is a septic case, I invariably have the patient transfused as soon as the ether is started. The current is then towards the pelvic cavity, and I never fail to drain a septic case through the vagina. In such cases the current is established from the over-pressure of blood; the drainage is through the abdominal cavity, and out through the vagina. When Dr. Kelly or any other man says that you can not drain with iodoform gauze, I say he is talking from inexperience or up toward the ceiling, because it can be put in and drained. Look at your charts twenty-four hours afterwards, and ask the nurse what the patient's condition is, and she will invariably tell you that he is draining well.

Dr. Andrew Smith, Portland, Ore.—In the extreme West we owe a great deal to the writer of this paper. I and my colleagues were in the habit of draining frequently. When Dr. Clark's first paper was published, quite a reaction set in, and since then it has been a progressive matter with us not to drain. I have come to the conclusion that there is no such thing as effectual drainage of the peritoneal cavity. Peritoneal absorption is so rapid that sepsis is taken up before it can be drained away, and the drainage material is soon walled off, thus precluding further drainage of the general cavity. We must, therefore, trust to our toilet to remove as much sepsis as possible, and trust to Nature to handle that which is already absorbed. Drainage is, therefore, not only useless, but harmful. But this applies only to the general cavity. When there is a walled-off cavity which is septic it should be drained; or rather, it should be packed with iodoform gauze, which serves the double purpose of absorbing the septic contents of the circumscribed cavity, and of stimulating the walling-off process.

Dr. Emil Ries, Chicago—I wish to point out that Dr. Clark's paper of to-day suffers from two basic and fundamental mistakes. He says that if in the course of an abdominal operation we have infection of the peritoneum, we have pus in the cavity, and he thinks that is the beginning of the infection. The infection spreads because the germs in the pus spread all over the peritoneum. That is one fundamental mistake. The peritoneum is a living membrane, and if any pus is spilled on it and infection occurs, it will not stay on top, as it would on a piece of sheet-iron, but it goes right into that membrane, and if you examine an infected peritoneum with the microscope you do not only find signs of inflammation or germs on top but in the substance of the membrane. Therefore, when he washes out the cavity, he only reaches what is on top and not what is in the peritoneum. That is the greatest mistake, a mistake against which we all should protest. It is the greatest mistake that can be taught.

The second mistake I can point out in a few words. According to his idea, the importance of the distribution of the germs in the abdominal cavity lies in the fact that a large number of cells take hold of these microbes and carry them off. That is the old Metschnikoff theory, which has been exploded and is long dead. Therefore, Dr. Clark's theory is also exploded. He can take all the germs in the peritoneal cavity and carry them off, but that does not do away with the infection and does not prevent the death of the patient. It has long been known that the body of the micro-organism is not the cause of the disease, and is not the cause of the death of the patient, but the products of this individual micro-organism, the toxins, which are present and spread throughout the body are the disturbers. The important thing is to prevent infection, to prevent these germs from getting into the peritoneal cavity. All the surgeons who have spoken here have shown us the different ways in which this can be done. I do not know that it is necessary to pour saline solution into the peritoneum. I have seen patients die and I have also seen patients recover after its use. It is, after all, a question of the virulence of the micro-organisms. It is not whether he has staphylococci or streptococci, because we have staphylococci that are very insignificant and harmless, and we have staphylococci that are very dangerous. The Metschnikoff theory applied to this treatment of the peritoneum is exploded, and so are the two fundamental principles of Dr. Clark's theory of treatment of peritonitis.

Dr. Clark, closing—On account of the fact that my paper has run counter to the opinion of many previous writers, I was quite prepared for the very vigorous discussion which it has drawn forth. I shall not attempt to reply to all of the criticisms that have been offered to the paper, although I have endeavored in my completed paper to cover all of these points. As I have stated, when I first proposed the postural method of drainage in 1896, I did so with some trepidation, notwithstanding the fact that I had used it in a large number of cases with uniform success. As the teaching of the past had been so radically opposed to the theories which I advocated, I naturally feared that possibly the future might bring forth cases which would prove that the method was open to serious objection. Five years have passed since the publication of my first article, and I have paid especial attention to the practical side of this question, and, therefore, the intimation on the part of some of the speakers that my conclusions are based upon theoretical, rather than upon practical grounds, is without foundation.

As to Dr. Ries' criticism that the phagocytic theory has long since been exploded, I may say I have distinctly stated in the body of my paper that I do not know whether the so-called "alexin" or the phagocytic theory is the proper one. But from the very careful discussion of the action of the leucocytes by Bordet and Walgren and others, I can by no means agree that the phagocytic theory is exploded. At the same time, however, I give the very greatest credence to the alexin theory. After all, it matters little in the practical consideration of this question, whether the leucocytes are directly acting as phagocytes, or whether they merely secrete the germicidal agent (alexins). From the trend of the discussion on the part of some of the gentlemen, I see distinctly that they have not understood the purport of my paper. As a preliminary and absolute requisite for the employment of the natural peritoneal method of drainage, the operation must have been conducted with absolute care, and the most painstaking attention to every detail of the operation. To leave a suppurating area which would subsequently continue to be a focus of infection would be a contra-indication to the use of the natural method of drainage. A simple spilling of pus during the course of the operation is not a dangerous complication, provided the general abdomen has been well walled off with gauze or sponges, and that the pus is immediately sponged out. Several speakers who have said that they have gradually stopped the use of drainage have shown that their results are better now than ever before. If they go one or two steps further along the line of progress, I thing they will probably find that their results will be even much better yet.

The point emphasized by one or two speakers as to the action of virulent streptococci is well taken. I do not, for one moment, feel that salt solution will wash out all the germs from the peritoneal cavity, but I do believe that we eliminate more debris and foreign matter in this way than in any other, and subsequently, the leaving behind of salt solution greatly facilitates the rapid absorption of matter which is not removed by irrigation. If a virulent streptococci infection is present, I do not believe that a barrel of salt solution will save the patient, and, at the same time, I do not believe that yards of gauze drainage will effect any better results. These are the sporadic cases which terminate with the symptoms of the most virulent poisoning. Some of the gentlemen present who have misinterpreted my remarks, seem to think I have advocated the complete abandonment of drainage. If they will read my "Indications for Drainage" they will find that this is by no means the case. In my paper I have endeavored to put upon a scientific basis the routine employment of peritoneal infusions of salt solution. Outside of the postural method of drainage which I advocated in my first paper in 1896, I claim no originality in the use of salt solution as other operators had employed it before I took up the subject.

My object has been to endeavor to explain on a scientific basis the undoubted benefits derived from the liberal employment of peritoneal infusions.

PRIMARY CARCINOMA OF THE NASOPHARYNX. A TABLE OF CASES.[*]

CHEVALIER JACKSON, M.D.

PITTSBURG.

Primary carcinoma of the nasal fossæ is rare, yet most rhinologists of considerable experience have seen cases. Primary carcinoma of the nasopharynx is so rare, judging from the fewness of reports, that but few rhinologists have had even one case. A careful search of the various indexes of the medical journals published in French, German, English, and Italian during the last twenty years has failed to unearth more than 14 cases. It is probable, however, that some reports have not been found; others have doubtless escaped because buried under misleading titles. Cases primary in the nasopharynx, later invading the oropharynx, velum, tonsil, nasal fossæ, antrum and brain, probably have been reported, if at all, as of these regions. Politzer[17] mentions 5 cases where the Eustachian tube was involved by cancerous extension from the tongue and the superior maxilla, but none of these seem to have been primary in the nasopharynx. It scarcely seems possible that all medical records should contain so few as 14 cases of carcinoma of the nasopharynx, yet Moritz Schmidt,[5] in a total of 32,997 nose and throat patients, did not meet with one case, though 75 of laryngeal carcinoma were seen. Reports of 5 cases were collected by Bosworth,[6] in 1889, to which he added 1 of his own observation. To these I have added 8, including one of my own, making 14 in all, tabulating them as well as the incomplete reports would permit. The table is incomplete, because 5 of the cases were evidently not under observation to their termination, and consequently only record symptoms to a certain stage. All of the cases were primary in the nasopharynx, with the possible exception of Lotzbeck's,[3] in which the nasopharyngeal portion was discovered at the autopsy. So small a number of cases is not a very safe basis for deductions; yet we must draw conclusions by the light we have. Before proceeding to the consideration of the table, I beg leave to give the history of the case that came under my observation.

On March 5, Miss J. P., aged 23, a cork-worker, was referred to me by Dr. Leon Sadowski. She was white, American born, of German parentage, her family history negative as to cancer, syphilis and tuberculosis, and no personal specific history. She complained of constant lancinating pain in her right cheek, above her right eye, deep in the right ear, and in and under the right lower jaw, so severe at night that she had been unable to sleep for three months. Dr. Sadowski stated that during the few days she was under his care one-half grain doses of morphin had no effect. Prior to three months, the pain had been intermittent for a year. Right nasal stenosis was first noticed three weeks previous to her consulting me, but had probably existed longer. The discharge anteriorly and posteriorly was odorless, thick and yellow, with no admixture of blood, and there was no history of hemorrhage. There was infiltration and tenderness of the cervical, parotid and submaxillary lymphatic glands. Ankylosis of the jaw prevented separation of the incisors more than one-half inch. The face was asymmetrical, the right cheek somewhat swollen, the general appearance of the patient somewhat cachectic, and the temperature subnormal, 97.6. Dr. Theodore Diller, after a careful examination, reported the functions of the fifth and seventh nerves unimpaired, and the brain uninvolved. Dr. C. A. Wishart kindly examined the eye-ground and reported a low-grade optic neuritis in both eyes: Visual acuity, O. D. 15/30; O. S. 15/70.

Upon inspection of the fauces I found a slight redness and infiltration of the right pillars and a bulging downward of the velum on the right side. The rhinoscopic mirror brought into view a large cauliflower-like mass completely hiding the right choana and fossa of Rosenmüller, and burying from view all of the Eustachian prominence except the border of the orifice, which was in line with the vomer, owing to the swollen and infiltrated condition of the eminence. This lateral mass was in contact with large masses of adenoid tissue which hung downward from the vault, and which in appearance differed from adenoid hypertrophy only in a red-bordered ulceration at the free extremities of some of the masses. The jaws could not be separated sufficiently wide to permit the finger to reach the vault, but on palpitation through the velum a soft pultaceous mass could be felt above a harder mass, which latter was evidently the infiltrated Eustachian prominence. On anterior rhinoscopy after depletion with adrenalin and cocain, a grayish-pink mass could be seen back in the nasopharynx, but it was apparently not attached to the turbinals, and was certainly not in the nasal cavities. Several fragments of the growth were removed anteriorly with alligator forceps. Pending a report the patient was put on a specific treatment, with large doses of morphin and antipyrin to control the pain. Microscopic examination of the fragments, by Dr. Edward Mayer, showed nothing to indicate malignancy. For the purpose of getting a more satisfactory specimen, and of making a digital examination, the patient was chloroformed, a gag inserted and the rigidly ankylosed jaws forced open. The finger determined the growth to spring from the right wall of the nasopharynx, both anterior and posterior to the Eustachian eminence; though the point of greatest degeneration, and therefore probably of origin, was at the junction of the vault with the right wall of the nasopharynx, between the Eustachian orifice and the choanal margin. The pterygoid plates could be plainly felt as the soft degenerated tissue gave way under the finger. The right Eustachian eminence was three times the size of its fellow, and quite hard, except on its anterior aspect, where it was ulcerating. The posterior ends of the middle and inferior turbinals were infiltrated, but not breaking down, evidently having been but recently involved. With the aid of Dr. Milligan I removed all of the growth that would come away readily, along with the involved right Eustachian eminence, by means of the cold snare, Gottstein curette, side curette and Juraz adenoid forceps. The masses aggregated the size of a hen's egg. Anterior and posterior plugs were necessary for hemorrhage. Dr. Edward Mayer examined sections of the growth microscopically and reported it to be a columnar epithelioma.[14] Dr. Linnæus H. Prince, of Philadelphia, pronounced it glandular-celled carcinoma. There is now, three months after the operation, a deeply excavated ulcer at the junction of the vault with the outer wall. The region of the removed Eustachian eminence is slightly swollen and infiltrated, but there seems at present no tendency to repullulate. The nasopharynx is free and roomy, the choanal margins are visible all around and free from encroachment. The powder insufflated posteriorly comes like smoke out of both anterior nares. The natural hollow externally at the angle of the jaw on the right side is filled out more than level by the infiltrated parotid glands, and this region is the seat of pain, which is often darting in character, shooting across the face to the temple and upper jaw. This and the "pain deep in at the root of the ear" are, or would be, severe at night, but are perfectly controlled by 1 grain of morphin sulphate at bedtime. There is occasionally a slight fluttering twitch on the right side of the face, such as we see when the facial nerve is touched in the tympanum. As the membrana tympani is normal and there are no signs of middle ear trouble, I have thought this due to pressure or irritation of the facial nerve, either immediately before or after its emergence from the temporal bone, probably by the infiltrated parotid lymphatic glands. There is now no fixation of the jaw, mastication is easy and painless, but the maximum separation of the incisors is one inch. Beyond this, severe pain is produced apparently by pressure on the parotid lymphatic enlargement. Swallowing is painless and unimpeded, all the palatine muscles moving normally. The temperature has not been above normal since the post-operative rise of 1.5 degrees; it is, however, often subnormal, occasionally down to 97 degrees. There is no hemorrhage, no blood in the discharge, which is muco-purulent, small in quantity, never acrid and there is absolutely no fetor.

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[*] Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, W. E. Casselberry and J. N. Mackenzie.

No.	Age. Sex.	Reporter.	Family History.	Nativity.	First Symptom.	Ear.	Eye.	Fixation Max.	Pain.	Discharge.	Odynphagia.
1	75M..	Durand-Fardel	....	......	Dysphagia, Dyspnea.	....	....	......	....	....	......
2	50M..	Maissonneuve.	....	......	....	....	....	......	....	....	......
3	37F...	Lotzbeck...	....	......	....	....	R. and l. amaurosis exophthalmos.	......	....	Fatal hem. from inf. max, carcinoma, not naso-phar.	......
4	39F...	Flour......	....	......	Adenopathy .	R. deafness...	Contract pupil, press. on sympathetic.	......	Slight......	Epistaxis....	......
5	65M..	Schmidt ...	....	......	Coryza; bloody discharge.	....	....	......	....	Bloody muco-pur. Epistaxis.	......
6	59F...	Bosworth...	....	......	Discharge; r. nasal stenosis.	....	....	......	Slight throughout.	Bloody, fetid muco-pur.	......
7	45M..	St. Mary's Hospital.	Acquired syphilis	......	L. nasal stenosis.	....	L. corneal anesthesia, l. int. strabis.	Present..	Headache, left side.	Bloody muco-pur.; r. epistaxis.	Late....
8	40M..	S. A. Fox...	Negative....	......	Otalgia, deafness, autophony.	Otalgia, deafness, autophony.	Invaded, diplopia, strabismus.	......	Sharp in ears. Headache.	Fetid muco-pur.	......
9	63F..	McBride....	....	......	Otalgia, "pain throat."	Otalgia.....	....	......	Ears and throat.	Bloody expectoration.	......
10	14M.	J. M. Elder...	Mother, cancer, liver and stomach.	Canada; Irish parentage.	Adenopathy..	....	....	Present .	Severe at base of brain.	Not fetid, muco-pur.	......
11	40M..	E. J. Brown..	Mother, abdominal tumor.	......	Chr. catarrh, r. otalgia; tinnitus, deafness.	Otalgia, tinnitus, deafness.	....	......	Otalgia, headache.	....	......
12	56F...	Robertson...	Abdom. tumor, obstruction of bowel.	......	L. otalgia; l. anosmia; l. nasal sten.	Otalgia, 2 attacks, l. o. m. a., recovery.	Pain......	......	Ears, eye....	Muco-pur....	Present..
13	42M..	Roncalli ...	Negative...	Italy....	Bloody discharge; otalgia.	Otalgia (darting).	....	Present..	Darting l. ear, l. side face.	Bloody muco-pur.; epistaxis, hemor. fauces.	......
14	23F...	Ch. Jackson..	Negative....	U. S.; German parentage.	Neuralgia 5th n.; reflex.	Otalgia, cartilag. tube involved.	Optic neuritis. Pain.	At 6 mos.	Neuralgia, 5th nerve; otalgia. Later lancinating in growth.	Not bloody; not fetid; muco-pur.	None yet..

ETIOLOGY.

Sex.—This does not seem to be a factor, as the cases are nearly equally divided, 57 per cent. being males, 43 per cent. females. This is in marked contrast to cancer of the larynx, where about 75 per cent. are males, and in greater contrast to cancer of the oropharynx, where about 90 per cent. are males, and in still greater contrast to cancer of the lip, where practically all cases are males. Moritz Schmidt, in a total of 32,997 nose and throat patients, found carcinoma in the nasal passages in 5 (3 males, 2 females), 60 per cent. males; in the nasopharynx in none; in the oropharynx in 16 (15 males, 1 female), 94 per cent. males; in the larynx in 75 (61 males, 14 females), 81 per cent. males.

Irritation.—This brings up the interesting question of the part played by irritation in the location if not causation of carcinoma. Most authorities now agree that, in general, irritation may favor the development of carcinoma, just as trauma does sarcoma; but the question that interests us is the bearing on the subject of the relative frequency of the disease in the nasal passages and larynx as compared with the relative rarity in the nasopharynx. My own opinion, based on fifteen years of observation of the upper air-passages of persons who inhale Pittsburg's smoky and dust-laden atmosphere, is that the nasopharynx is the most irritated portion of the respiratory tract. My case-books show an average of 48 cases of chronic catarrh of the nasopharynx to one of the larynx. We all know of the warming, cleansing and moistening duty performed in large part by the abrupt turn of the nasopharynx. In doing this duty the mucous membrane is very much irritated. All this is so much the less irritation for the larynx. This organ has its duty of vocalization, but ordinary use of the voice does not irritate. In making the comparison the use of tobacco does not enter, as, in ordinary smoking and the "inhaling" of cigarette smoke the larynx does not seem to be subjected more than the nasopharynx to either direct contact with the smoke or continuity with tissue exposed to the direct contact. As shown by the relative frequency of carcinoma of the larynx and of the nasopharynx, then, it would seem that irritation was not a factor in the production of carcinoma.

Occupation.—This is only mentioned in a few instances, but in only one is it of a particularly irritating kind. Case 14 was a cork-worker, exposed to the very irritating dust of the cork works, but this isolated instance is no basis for argument.

Dysphagia.	Dyspnea.	Miscellaneous.	Origin.	Extension.	Lymph glands involved.	Secondary dep.	Operation.	Termination.	Clinical diag.	Microscopic Report.	Duration.
Obstructive.	Obstructive	. . . .	Posteri'r surface velum.	Oropharynx.	R. and l. cervical and parotid.	Lymphatic glands	None .	Death by exhaustion, inanition.	Scirrhus.	. . . .	. . . .
. . . . . .	. . . . .	. . . .	Vault. . .	. . . .	. . . .	. . . . . .	Exsection maxilla	. . . . . .	Carcinoma	. . . .	3 yrs. to date reported.
. . . . . .	. . . . .	. . . .	Vault. . .	Cranial and nasal cav.; r. orbit antrum; slight l. orbit.	. . . . . .	Inf. maxilla, secondary in naso-ph. (?); primarily in thyroid.	. . . .	Death by hemorrhage inf. max. carc.	Carcinoma	. . . .	"Some time."
. . . . . .	. . . . .	Paral. r. voc'l cord; pressure of vagus by glands.	Vault. . .	. . . .	R. cervical sup. and deep r. submax.	Lymphatic glands	None	. . . .	Carcinoma	. . . .	6 years.
Obstructive.	. . . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	Gussenbauer resect.; both s. max; surv. few weeks.	Death. . . .	. . . . .	Small-celled Medullary.	1 year.
. . . . . .	. . . . .	. . . .	Vault. . .	Cranial cav., "brain symptoms."	R. cervical, ulcerated and healed.	Lymphatic glands	Cold snare: palliative; surv. 1 year.	Death by exhaustion.	. . . .	Medullary .	3 years.
Paralytic (?)	. . . . .	Par. of face; motor and sens. Vertigo	Left wall	Cranium, l. turb., l. antrum.	L. cervical submax. (?)	Lymphatic glands	. . . .	Death. . . .	. . . . .	Epithelioma	2 years.
. . . . . .	. . . . .	. . . .	. . . .	Cranium, l. orbit.	None	. . . .	Annandale; survived two months.	Death. . . .	. . . . .	Epithelioma	2 years.
. . . . . .	. . . . .	. . . .	Right wall	Velum, right tonsil.	R. cervical. .	Lymphatic glands	None	. . . .	Epithelioma.	. . . .	1 yr. to date of exam.
. . . . . .	. . . . .	Albuminuria tube casts.	Vault. . .	. . . . . .	R cervical; l. slightly.	Lymphatic glands	Lymph. glands extirpated; surv. 2 mos.	Death. . . .	. . . .	Scirrhus. . .	2 years.
. . . . . .	. . . . .	. . . .	Vault. . .	. . . . . .	R. cervical; l. cervical.	Lymphatic glands	Cold snare; extirpated lymph.	Death. . .	. . . . .	Epithelioma	5 years.
. . . . . .	Early, prior to obstruc.	. . . .	Vault. . .	. . . .	L. cervical	Lymphatic glands	None	. . . .	. . . . .	Epithelioma	1 yr. to date of exam.
. . . . . .	. . . . .	Temperat're elevated.	Vault. . .	. . . . . .	. . . .	. . . .	Galvanic igni puncture.	Death, marasmus, hemorrhages.	Telangiectasic carcino	. . . .	1 year.
None yet. .	None yet.	Adenoids invaded, temperature sub-normal.	Right wall	None at this date.	R. cervical; r. parotid.	Lymphatic glands	Cold snare; curette forceps.	. . .	. . . . .	Epithelioma (glandular-celled carcinoma).	1½ yrs. to date of report.

RESUME.

Number of cases, 14; 8 males, 6 females. Range, 14 to 75 yrs; mean, 46: 86 per cent. between 30 and 40: 57 per cent. males, 43 per cent. females.

Fam. History.—Negative, 3; cancer, 1; "abdominal tumor," 2; acquired syphilis, 1.

First Symptom.—Otalgia, 5; adenopathy, 2; nasal stenosis, 3; bloody discharge, 2; dysphagia, 1; neuralgia, 5th nerve, 1.

Ear.—Otalgia, 6; deafness, 3; tinnitus, 1. Otit. med. cat. acuta followed by recovery, 2 attacks in 1 case.

Eye.—Strabismus, 2; pain, 2; amaurosis, 1; exophthalmos, 1; corneal anesthesia, 1; diplopia, 1; optic neuritis, 1.

Fixation Max.—Present, in 4; not mentioned, in 10.

Pain.—Ears, 6; slight, 2; headache, 2; throat, 1 (?); neuralgia, 5th nerve, 1; lancinating in growth, 1 (?).

Discharge.—Muco-pur., 8; bloody, 5; fetid, 2· not fetid, 2; fetor not mentioned, in 10; acrid, no mention; epistaxis, 4; bloody expect., 2; none, 2; not mentioned, 6.

Odynphagia.—In 2; none, 1; not given, 10.

Dysphagia.—In 3; obstructive, 2; probably paralytic, 1; none, 1; not given, 9.

Dyspnea.—Obstructive, in 1; prior to obstruction, 1; none mentioned, 12.

Miscellaneous.—Face paralysis, motor and sensory, 1; vertigo and albuminuria tube casts, 1.

Origin.—Vault, 8; R. wall, 2: L. wall, 1; velum, 1; not given, 2.

Extension.—Cranial cavity, 4; orbit, 2; oropharynx, 2; none, in 1; not given, 7.

Lymph Glands Involved.—Cervical, in 9; (R. 4, L. 2, both, 3); parotid, 2; submaxillary, 2; none, 1; not given, 4.

Secondary Dep.—In lymphatics, in 9; none elsewhere. No carcinomatosis. One case nasopharynx, inf. max. and thyroid all involved.

Operation.—Radical preliminary, 3; palliative, 4; none, in 4; not given, 2.

Termination.—Death in 8; not given, 6; by exhaustion, in 2: by inanition, 1; by hemorrhage inf. maxilla, 1; immediate cause not given, 4.

Micro. Report.—Epithelioma, 6; scirrhus, 2; medullary, 2; telangiectasic, 1; variety not given, 3.

Duration.—Range, 1 to 6 yrs.; mean, 2 yrs. 9 mos.

Location.—In 66 per cent. of the cases, where the location is given, the growth sprung from the vault. This is the most irritated portion. At the upper part it is the seat of the pharyngeal tonsil, and if it were not for the rarity of the disease we might be justified in thinking the retrograde changes in this structure were a factor. In one case the growth appeared some years after removal of what appeared to be adenoids, giving rise to the queries: Did the benign growth develop malignancy? If so, was the irritation of removal a factor? Reasoning from analogy, we may conclude benign growths may become malignant, but operative removal is not a factor, as shown by Semon in disproving Lennox Browne's view that repeated endolaryngeal operations cause benign growths to develop malignancy. Delie[10] reports "sarcomatous recurrence" after adenectomy. Age does not eliminate adenoids as a predecessor of malignancy, as we have all seen adenoids at 30 and over. In the writer's case there were large adenoid masses not yet invaded by cancerous tissue, as demonstrated by the microscope, but whether they existed prior to the cancer, or whether the pharyngeal tonsil proliferated by reason of the peri-carcinomatous hyperemia, the writer does not know. His opinion is that the adenoids were there since childhood, though they were not large enough to produce stenosis. In Case 13 Roncalli says "there is the presumption, sufficiently founded, that the adenoids had spontaneously changed into a malignant neoplasm."

Age.—This is a recognized etiologic factor in carcinoma. The age of the cases in our table may be analyzed as follows: 10 to 20, 1 or 7 per cent.; 20 to 30, 1 or 7 per cent.; 30 to 40, 2 or 14 per cent.; 40 to 50, 4 or 29 per cent.; 50 to 60, 3 or 21 per cent.; 60 to 70, 1 or 7 per cent.; under 30, 2 or 14 per cent.; 40 to 60, 7 or 50 per cent.; 30 to 80, 12 or 86 per cent. The text-books state that carcinoma of the nasopharynx is rare before 30, yet 14 per cent. of the reported cases occurred in the first three decades. The score between 40 and 60 includes half the cases.

Heredity.—All authorities agree as to heredity being a factor in carcinoma. Of the cases in our table the family history is only given in 6. In 3—50 per cent.—of these there was a history of cancer or "tumor"; in 3 cases—50 per cent.—it was negative. The right side seems to have been involved twice as often as the left, judging by the lymphatic infiltration, but we are apt to err in deductions from so few cases. Beyond the three etiologic factors, heredity, age and irritation, all is theory.

SYMPTOMATOLOGY.

Of course there are the symptoms common to all nasopharyngeal growths; coryza, obstruction to nasal breathing, postnasal discharge, pain, and, late in the disease, dyspnea, dysphagia, odynphagia, otalgia and deafness. To these must be added, in malignant disease, cachexia and intracranial extension. Of the symptoms that are usually enumerated as pointing particularly to carcinoma in the nasopharynx may be mentioned pain, fetor, hemorrhage, bloody discharge, and glandular involvement.

Pain.—This characteristically lancinating at, or near, the seat of the growth, is reported in only 2 cases, though it may have been present in others, being referred to the ear or throat. Six of the 14 cases—43 per cent.—report otalgia. The laity can not describe the location of a sensation in the nasopharynx, and a sensation arising on one side of the cavity is generally referred to as in the "root of the ear" of the corresponding side. Therefore we may conclude that of the 10 where pain is mentioned, 6 had more or less characteristic cancer pain. It was not characteristic in 3, and in 2 of these it was very slight. In Case 10 relief was sought for enlarged glands, the pain being slight early, but later—Dr. Elder informs me in a personal letter—it became very severe and was referred to the base of the brain, though without symptoms of meningitis or mental disturbance. Pain evidently may be: 1, reflex neuralgia due to irritation of nerve filaments, as in the early stages of Case 14; 2, aching from pressure of the growth on a nerve trunk, as in the later stages; 3, true lancinating pain in and reflected from the seat of growth, as characteristic of cancer elsewhere; or 4, very slight from the onset to euthanasia, as in Case 6.

Pain on swallowing would likely only be complained of early when the growth involves the velum, or, when late, its bulk causes the growth to be pressed by the velum in swallowing.

Fetor.—This is one of the most constant symptoms of carcinoma elsewhere on mucous surfaces, especially in the stage of ulceration, but it is not mentioned in the reports of 71 per cent. of the cases. It may have been omitted, but it is so obtrusive a symptom that the observer is not likely to omit it. In Case 10 there was no fetor from the beginning to the death. This case was scirrhus, which usually is later in ulcerating than epithelioma. In Case 14 there never was any fetor though the growth had existed a year and a half, with ulceration for at least six months.

Hemorrhage.—This and bloody discharge, while set down in the text-books as usual symptoms, do not, from the cases reported, seem to be the constant accompaniment that is found elsewhere, in uterine cancer for instance. In the writer's case, after one and a half years' progress, there has been no bleeding or bloody discharge, except for a day or two after the growth was extirpated. In Case 10, Dr. Elder informs me there never was any expistaxis or other hemorrhage. In Case 13 hemorrhage was an early symptom, blood flowing from both nose and mouth, and an effort to get a specimen for microscopy resulted in such free bleeding that, the case being an out-patient, the attempt was given up.

Lymphatic Involvement.—The absence of lymphatic involvement would have been so remarkable that it would surely have been reported, so that we are justified in assuming it present when not mentioned, especially as in 3 of the 4 instances the diagnosis was not microscopic. No one would make a clinical diagnosis of carcinoma in the absence of lymphatic enlargement. Therefore we may count it present in all cases—93 per cent.—except one and possibly here the deep glands may have been infiltrated but not palpable, a possibility demonstrated by Lack[16] in carcinoma of the tonsil, where they were discovered in an external radical operation. Glandular enlargement in the neck was the first symptom noticed by the patient in two instances, and seems to have been a very early symptom in the others, though set down in some text-books as late. It progressed slowly in all cases; and sloughed out and healed up spontaneously in one.

Intracranial extension.—This is mentioned in some of the text-books as a less frequent occurrence in sarcoma than in carcinoma. We find, in our table, cerebral extension in 50 per cent. of the cases that were observed to their termination. This is exactly the same percentage as in 14 of sarcoma under observation to the end. It would be misleading to base the calculation on cases the later history of which is not reported, because cerebral involvement is a late symptom. There seems remarkably little tendency to extend downward, only 2—14 per cent.—having reached the oropharynx. This, with the rarity of involvement of the velum, accounts for the rarity of dysphagia and odynphagia as symptoms. Dysphagia was present in one case before the bulk of the growth would interfere with deglutition. This may have been paralytic, or due to enlargement of the deep cervical glands lying close to the esophagus.

Cachexia doubtless was present in all the cases, but the date of its onset was not definitely stated so tabulation is useless. General carcinomatosis does not appear on the records, and metastasis appears but once,—Case 3,—though here there is some doubt as to where the disease was primary. In 2 of the cases reported no growth in the pharynx was suspected. In 1 case—No. 11—the patient came for the removal of enlarged glands supposed to be tubercular; in the other,—No. 14,—for trifacial neuralgia, for which exsection of the Gasserian ganglion had been urged, and would have been submitted to had not the patient consulted Dr. Sadowski who suspected nasopharyngeal trouble and sent her to me. She had had trifacial neuralgia for a year before the growth attained sufficient size to occlude one posterior naris.

Inspection of the fauces will show nothing early, later a bulging downward and forward of the velum. Anterior rhinoscopy might show at least the presence of a growth of some kind if the nasal passages were unobstructed and the soft tissues contracted with cocain and adrenalin. Posterior rhinoscopy would reveal a warty ulcerating mass in the later stages; early it is altogether possible that a hasty routine examination might yield a diagnosis of adenoids. Indeed, it seems to the writer, from observation of his patient, that there might have been a stage where nothing but the microscope could have demonstrated that there was anything more than adenoid hypertrophy.

As to *touch*, one text-book refers to the "hard warty feel so characteristic of this form of cancer." Prior to seeing this I had written that "it would be impossible for a surgeon who had once experienced the soft mushy sensation of burying his finger to the bone in an ulcerating epithelioma of the nasopharynx to mistake it for anything else excluding tuberculosis and syphilis," but both myself and the author referred to each evidently had a certain stage of a single case in mind. In my case the sensation was like a mass of fresh blood clots, though the enlarged Eustachian eminence was hard. Case 13 is described as "very soft" to the touch. Doubtless the density varies so greatly that touch will serve little beyond determining a broad-surfaced, broad-based, undefined growth bleeding freely from the fingering.

DIAGNOSIS.

The text-books describe the chief characteristics of carcinoma of the nasopharynx as sessile tumors causing nasal stenosis, dyspnea, epistaxis, coryza, postnasal discharge of bloody, fetid, ichorous secretion, enlargement of cervical lymphatic glands, ear-ache, deafness and cachexia—occurring in a patient over 30 years of age. Doubtless at some time or other most of these symptoms appear, but they are of little use for early diagnosis. Only rhinoscopy long before the appearance of any symptom of malignant neoplasm will make the early diagnosis which is the desideratum in all cancers. This early diagnosis is only likely to happen in a patient coming for some other condition. In this stage, before the infiltration becomes a distinct neoplasm diagnosis is difficult if not impossible. Fetor is not always present in carcinoma (usually not prior to ulceration), is present always in ulcerating gummata, frequently in tuberculosis, always in sarcomata and ulcerating fibromata. Pain is not an aid to a differential diagnosis, as shown by our table. Glandular involvement being present in 93 per cent. of the cases, its absence would exclude carcinoma almost positively, if we could be sure there were no involvement of the deep glands. Its presence is not to be relied on to exclude sarcoma, nor is any other symptom. It would be misleading to follow the text-books and exclude carcinoma if the patient were under 30, for 14 per cent. of the cases occurred before that age. Then we should always remember Rehn's case of laryngeal carcinoma at 3 years of age. Theoretically, it should be possible in the nasopharynx at the same age. Touch will determine a fibroma to have a narrow base in proportion to its size, with a smooth, rounded projection toward the oropharynx, its fixedness, firm consistence and sharp definition resembling and usually exceeding those of the Eustachian eminence, which we all so readily distinguish in adenectomy. Usually a fibroma attains a large size and produces mechanical difficulties before affecting the general health or producing much pain, whereas our table shows obstructive dysphagia present in only 2 cases—14 per cent.—and in these it was a very late symptom, appearing long after cachexia became marked. In 2 cases cachexia appeared before the growth attained sufficient bulk to produce even nasal stenosis. Fibroma is rare after 30, when it is apt to retrogress, or at least cease to progress. Both fibroma and sarcoma of the nasopharynx are usually accompanied by much more hemorrhage and bloody discharge than the records show

Case of Miss J. P.

in carcinoma. In the early stages, carcinoma may simulate adenoids, as in Case 11, or both conditions may coexist, as in the writer's case—No. 14.

Syphilis as an ulcer or a gumma can be excluded with certainty only by the failure of specific treatment to benefit. In the writer's case of carcinoma the pain was very much increased by potassium iodid, diminishing when discontinued, increasing again when resumed. This does not seem strange when it is remembered how some patients complain of aching in the parotids and at the angles of the lower jaws, and how others are affected with coryza, from iodism.

Pharyngo-mycosis rarely extends to the nasopharynx, but its appearance and history ought to render its recognition easy without the microscope.

The writer has not seen a report of a case of lupus —as distinct from tuberculosis—of the nasopharynx, though as it occurs in the oropharynx and nasal passages it would seem a possibility. The history, cicatrices, and associated skin lesion of lupus vulgaris should distinguish it.

Tuberculosis might simulate an ulcerating carcinoma, but it would not be fungoid and warty, and with its temperature record, thick, tenacious, bacillus-laden secretion, pulmonary and laryngeal accompaniment, does not seem difficult of exclusion. However, a hair-splitting clinical diagnosis is not worth while, for the microscope is the 'final arbiter"; but the microscopist's negative report must not be acted on unless a large specimen has been submitted to him. When a clinical diagnosis of carcinoma has been made it would seem best to anesthetize, make a thorough digital examination and remove all of the growth that can be readily removed. This will permit of a microscopic examination of value even if negative. If it prove carcinoma, the best possible has been done; if otherwise, a more radical operation may be done if deemed advisable.

PROGNOSIS.

Termination is utterly hopeless with present methods of treatment. As to duration, from two to six years may be promised under palliative treatment. Radical operation, if survived, will shorten life to a few months, though one patient survived a year. The progress of the disease in the published cases seems quite slow in the early stages, rapid in the later.

TREATMENT.

This may be classed under two heads, radical and palliative. Special surgeons favor palliative methods by natural channels, general surgeons favor radical operations with radical preliminry operations to create an artificial channel. The aim of the radical operator is to get the growth out; the palliative advocate, recognizing the hopelessness of thorough removal, aims at comfort. The palliative methods include the cold snare, cutting forceps, possibly the curette in very soft growths, electrolysis, the galvanocautery, lactic and nitric acids, and possibly some other caustics, local soothing applications, and Chian turpentine internally. Extirpation of the enlarged lymphatics should probably also be included here. The 14 cases afford us examples of only the snare, forceps, curette, galvanocautery, glandular extirpation, Chian turpentine and absolute alcohol injections.

Radical procedures, of which there are many, vary considerably in technique, but they all contemplate the creation of an artificial channel by the resection, temporary or permanent, of more or less of the inferior or superior maxillary and palatine bones. Three cases are reported as radically operated on. Case 2 lived a year, by which time repullulation had filled the space left by the exsection of the superior maxilla. Case 3 survived exsection of both superior maxillæ a few weeks. Case 8 survived an Annandale operation two months. There are no records of deaths on the table from preliminary operations for nasopharyngeal carcinoma, as there are for fibroma in the same location, probably because of the rarity of the disease and consequent fewness of the operations. There may be cases in which radical preliminary operations are necessary for the removal of fibromata, but malignant disease confronts us with a somewhat different problem. There is no hope here of retrograde metamorphosis during the third decade. It is not a question of limiting the bulk within harmless bounds. Since no one has yet reported a cure by radical operation there seems to be no basis for argument. It can not increase comfort to add postoperative anemia to cancerous cachexia. There is the laudable ambition to eradicate the disease so thoroughly that there will be no return, but the results with carcinoma more accessibly located, are not such as to warrant the procedure, and, furthermore, in the writer's opinion, thoroughness is not as attainable at the bottom of a deep artificial channel, necessarily different in every case, as through the old familiar natural passages where every remaining landmark is familiar from manipulation of thousands of cases and every variation from the normal is apparent to the rhinologist's touch, and where combating hemorrhage does not take up so much valuable time.

Contrast these radical operations, with their mutilation, disfigurement and early death, to the example of palliative treatment shown by Case 6, where Bosworth, by gentle manipulation of the cold snare, removed the bulk of the growth, followed by quiescence and comparative comfort. True, this was one of the cases in which there was little pain, but radical operations, followed in a few weeks by recurrence of the growth, can not offer any hope of controlling pain if present. In Case 4, McBride prescribed Chian turpentine, which he considers his duty in all cases of cancer, though he has seen no marked results and the effect in this case is not recorded. In Case 11, the removal by the snare of what were at the time thought to be adenoids notwithstanding the age of the patient—40—gave complete relief for 3½ years, when the sudden onset of deafness and very loud tinnitus marked the attainment of a large-sized recurrence, on which injections of absolute alcohol had no appreciable effect. In the writer's case—No. 14—removal of the growth with the cold snare, forceps and very gentle curetting was followed by a month of little or no pain and a period of quiescence. In the second month periodical attacks of pain commenced and were easily controlled by morphin. At the present time—three months after the operation—the patient goes about the house, and is happy and cheerful in the belief that the growth will not return. About one grain of morhpin sulphate at bedtime controls the pain, rarely any being needed during the day. The addition of 1/100 grain of atropin sulphate seems to prevent nausea from the morphin. The only local application that seems to increase comfort and not to irritate is that suggested by Kyle for carcinoma of the nasal passages—aristol, 20 grains to the ounce of zinc stearate. Iodoform is disagreeable, and used in the nasopharynx daily for months, might cause toxic symptoms. Detergent and antiseptic gargles are used to clear the oropharynx of secretion, but their use in the nasopharynx by way of either nose or mouth seemed to irritate in this case. None of the cases were treated by electrolysis, but in Case 13 Roncalli used galvanic ignipuncture under the preliminary diagnosis of angioma or fibro-angioma, and thinks he did harm; hastening the fatal result, though the part of the growth treated, diminished, while the untreated portion increased in bulk. In Case 10 extirpation of the enlarged lymphatic glands seemed to add comfort for a time. In Case 11 extirpation of the glands afforded relief from headache. As to whether the extirpation in these two cases lengthened or shortened life, we have no basis for an opinion. But if there is a chance of making the patient more comfortable there seems to be no contraindication, as the healing was prompt and no ill result seems to have followed. In Case 6 the glands sloughed out and healed over, followed by rapid increase in cachexia. Dawbarn's method of ligation of the external carotids and a number of their branches has never been tried for the starvation of carcinoma of the nasopharynx.

CONCLUSIONS.

In conclusion, the points that I should like to hear discussed by this able assemblage are these: 1. Why is carcinoma of the nasopharynx relatively so rare? 2. Has the relative infrequency of carcinoma of the nasopharynx any bearing on the subject of irritation in the etiology of cancer? 3. Is a radical operation ever justifiable in undoubted carcinoma of the nasopharynx? 4. If justifiable in the very early stages, at what stage does a radical operation become unjustifiable? 5. If a radical operation be unjustifiable, what can we do to make the termination euthanasia, not cacothanasia?

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Determination of the Motor Activity of the Stomach.—Schuell describes in *Fortschritte der Med.*, No. 18, an accurate method of determining the status of the gastric motor functions. After a test meal the stomach is rinsed out in three hours. The contents are filtered, the filtrate dried and then weighed. It weighs about five grams in normal conditions, and variations in this weight indicate different pathologic conditions.

CASE OF NASAL SARCOMA, WITH REMARKS.*

DUNBAR ROY, A.B., M.D.
Clinical Professor of Eye, Ear, Nose and Throat Diseases, Atlanta College of Physicians and Surgeons; Oculist and Aurist to the Grady Hospital; Fellow of the American Laryngological, Rhinological and Otological Society; Associate Member of the American Ophthalmological Society, etc.
ATLANTA, GA.

Sarcomata within the last few years has certainly seemed to be on the increase. This may be due to the fact of a closer microscopic examination being made than formerly of all suspected tumors, especially those occurring in the nasal passages. Nor can rhinologists be too diligent in this direction. It is not my intention to go into the pathology of the sarcoma, but simply to add a few personal experiences to the report of a case.

Warren, in his late book on "Surgical Pathology," states "that sarcoma of the nasal passages is not a very rare disease." Bosworth has collected 41 published cases, but I believe this number is but a small proportion of the cases which have occurred. If statistics were really obtainable, they would show a much larger percentage of these growths than is at present the case.

The round-cell and alveolar forms of sarcoma seem to be the prevailing types of the growth occurring in the nasal passages, although there are sometimes seen the fibrosarcoma, myxosarcoma, and even angiosarcoma and melanosarcoma. Some writers hold that it is extremely rare for a sarcoma to originate primarily in the nasal passages, but that such a one nearly always has its origin in one of the continuous cavities, especially the maxillary antrum. This is a difficult question to decide, since the rhinologist rarely sees a case and follows it from its very incipiency. Warren says that the tumors are pediculated with about equal frequency on the outer and inner wall of the nasal passages. Histories of reported cases do not seem to substantiate this statement, rather showing a greater frequency on and around the turbinates than at any other point. The average age at which the disease appears is about 40 years, and it is seen about equally between males and females. Warren further says, that sarcoma does not appear to show the same malignant tendencies in the nasal passages that it does in other localities. There have been several cases reported where the disease had not shown a recurrence several months after its removal.

ETIOLOGY.

The etiology of sarcoma appears as yet to be enveloped in obscurity, but the majority of pathologists incline to the theory of Cohnheim, that it depends on a disturbance of embryonic tissue. Nasse says that trauma is more frequently the cause of sarcoma than any other tumor, and observation teaches that there is certainly a close relationship between the two, especially in this class of tumors occurring in the nose. In my own mind I firmly believe that there is a possibility of benign growth in the nasal passages, such as the myxomata, being transformed into malignancy through traumatic irritation. Such a statement is difficult to verify, since I have been unable to find any authentic case which has been traced from its very incipiency to the point where it has become malignant. There is enough evidence to show that this possible transformation has been seriously considered by others.

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* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, W. E. Casselberry and J. N. Mackenzie.

Last year, Würdemann, of Milwaukee, reported a case of sarcoma of the nasal passages in which he seemed very much inclined to the belief that it was a transformation from benign to malignant neoplasm through rough instrumental manipulation. If such then be a possibility, how necessary it is for the rhinologist to be certain of the character of every growth which he finds in the nose, and the radical removal in the very beginning, when there are the least signs of malignancy, and this too with the least traumatism possible.

PROGNOSIS.

The prognosis in these cases is anything but favorable, and any treatment which will stay the progress of the growth should be welcomed. The case which I report is cited for two reasons: 1, because of the probable transformation of a benign into a malignant growth; and 2, because of the surgical method used in the treatment.

Miss B., aged 28, from the southern part of the state, was referred to me in June, 1899. Her family history was most excellent. The patient herself had always been perfectly healthy up to February, 1899, when the right nasal cavity began to stop up and cause difficulty in breathing. She consulted her family physician, who told her she had a polypus and at the same time removed it with a pair of scissors. In a short time the growth returned, and he again removed it. After a short interval the nasal cavity still being stopped she went to a neighboring city to consult a surgeon. He told her that it was a surface polypus and could be removed. She remained there a month and at various times the growth was curetted and torn away. There was always excessive hemorrhage at each operation. At the end of a month the patient returned home with the assurance that the place would soon heal up. However, the growth gradually increased in size, the whole side of the face on that side swelling enormously and a swelling also appeared in the roof of the mouth.

On June 6, four months after the appearance of the first symptoms, she came to Atlanta. On examination I found the right nasal cavity, septum and right antrum involved with a growth which was evidently a sarcoma. The mother was advised that the case was hopeless, but at her solicitation I began a trial of Coley's mixture of erysipelatous toxins. This was used for two weeks with decided reactions, but no change in the growth. At this time Dr. W. P. Nicholson, a general surgeon, saw the case with me and advised, as a last resort, not as a curative but palliative, the cutting of the blood-supply to the tumor, by ligating both external carotids. The consent was given, and on June 19, at St. Joseph' Infirmary, Dr. Nicholson ligated both external carotids, the operation being accomplished in half an hour. The patient reacted nicely from the operation. On the second day the temperature rose to 102, but only for a day. The only thing complained of was pain on deglutition, on account of the soreness in the pharyngeal muscles. The growth seemed to decrease some in size after the operation and began to lose its fiery-red color so noticeable previously. The color became more of a purplish hue. For a few days there seemed to be an improvement and the patient complained much less of the throbbing sensation. No material change being noticed, at the end of two weeks, the patient gradually growing weaker every day, she was taken home. She died on August 16, seven months after the appearance of the first symptoms.

The prognosis in this case was unfavorable from the very beginning. It is certainly one which adds something to the idea of transformation of benign into malignant neoplasms. The question as to whether the growth considered in the beginning as a mucous polypus was not even then malignant could not be answered, as no microscopic examination was made, but it at least opens up the question for further investigation. Another interesting point was the rapidity of growth within the space of six months. Kyle, in his late textbook, says that the nasal sarcomata are of slow growth, and this view is held by the majority of writers.

The symptoms of severe bleeding whenever any growth within the nasal cavities is touched should make us very suspicious, and such should be removed early in the most radical way possible. I am opposed to the vigorous curetting of any growth in the nose, for if transformation of benign into malignant growths is possible, then curetting opens up the best chance for such to occur.

The thorough cutting-off of the blood supply to these growths, by ligating the vessels supplying the same, has recently been strongly advocated. One case is not sufficient for drawing deductions as to the curative effect of any treatment. In the case reported both external carotids were tied, so as to remove all possible source of bilateral anastomosis. Our operation produced no lasting beneficial effect. Such an operation might be effective in the early stages of the growth, but I do not think it will be of any benefit after marked infiltration of the tissues has occurred.

The use of the toxins was not persisted in because, as is well known, such are effective by destroying the tumor, and if such had happened in this case, the disfigurement would have been worse than death.

REPORT ON A CASE OF "EPITHELIOMA" INVOLVING TONSIL, FAUCIAL PILLAR, TONGUE AND BUCCAL SURFACE, WITH TREATMENT AND APPARENT CURE.*

S. A. OREN, M.D.
LANARK, ILL.

The history of the patient is as follows: H. S., a male, aged 73, white, married, father of a family of seven healthy adult children, had always enjoyed good health, and had not been sick enough to call a physician in thirty years; to all intents and purposes he was a healthy, robust, active man. His family history was negative. He formerly used tobacco, but not of late years; was not a total abstainer, though not a drinking man. He denied ever having had a specific lesion.

About December, 1899, while in Iowa, I was asked to look at the case. At that time the patient was complaining of a little sore throat, which he was pleased to call "a canker sore." A little white spot was discovered on the left anterior faucial pillar, rather high up, not larger than a pin-head, which I thought a simple ulcer, and so prescribed a simple application of powdered borax and a mouth wash.

Early in March, 1900, I was again asked to see the case. At that time the tonsil seemed to be involved, and the anterior faucial pillar had a rose-colored ulcer about one-half inch in diameter, surrounded by a zone of fiery inflamed tissue radiating in every direction. At this time the case was being occasionally treated by a local physician, with a gargle of some sort. The possibility of the case being malignant was suggested, and I advised thorough cleansing with an antiseptic spray, then cauterization, to be followed by a dust of iodoform.

I heard nothing more of the case until some time late in April, when a letter was received from his daughter, appealing to me for advice, stating that the throat was much worse, that they had consulted with two very able physicians, neither one of whom gave him any encouragement, and advised him to go to a hospital to have treatment or removal of the growth. One of them, however, suggested the possibility of it being a gumma, and, in addition to a local wash, had the patient on iodid of potassium in "auld lang syne" doses for some three weeks. The throat was steadily growing worse and the ulcer spreading.

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* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee:- Drs. Emil Mayer, W. E. Casselberry and J. N. Mackenzie.

On May 1, 1900, Dr. S. S. Bishop and Dr. Moreau R. Brown saw the case with me. At this time there was an angry ulcer on the anterior faucial pillar. The tonsil seemed entirely absent. Forward from the faucial pillar, alongside of the tongue, was an angry ulcer about an inch in length, with four ashy-colored coxcomb growths projecting above the surface; also a similar ulcer extending along outside of the gum and contiguous buccal mucous membrane, the gum being spongy and honeycombed. The patient complained of lancinating pains extending to the left ear, and much difficulty in swallowing, but otherwise seemed in good health.

Dr. Bishop thought the growth malignant, and wished Dr. Nicholas Senn to see the case; after the latter had made a careful examination, he pronounced it malignant, and was certain that the glands of the neck were involved, and probably the inferior maxillary. As treatment, he suggested Kocher's incision, or modified Kocher's incision, removal of a portion of the tongue, faucial pillar, soft palate, glands of the neck, and probably a portion of the inferior maxillary. To this operation the patient refused to consent.

Before going to see Dr. Senn, a section of the growth was sent to a pathologist for examination, the report of which I herewith submit:

CHICAGO, May 2, 1900.

Drs. S. S. Bishop and S. A. Oren, Lanark, Ill.

Dear Sirs:—Sections show a covering of squamous epithelium—underneath this a mass of epithelioma—squamous. There are large numbers of horny pearls. There are many nests of younger and more active cells—epithelioma shows round cell infiltration beyond the epithelioma. Diagnosis, epithelioma.

Very truly,
COLUMBUS MEDICAL LABORATORY.
Per Evans.

Dr. Moreau R. Brown suggested palliative treatment, consisting of iodoform and ether spray locally, and continuance of the iodid and mercury internally.

Thus we have the history of the case with the diagnosis of epithelioma confirmed by the laboratory, consequently a serious prognosis.

Discouraged and despondent as the patient was, he consented to return with me and remain until it could be ascertained whether or not he could be helped. He was kept on potassium iodid and mercury internally on general principles. He called at my office morning, noon and night. For a few days a spray of iodoform and ether was used, then changed to iatrol. Later, I washed the ulcer with a spray of listerin, using considerable air-pressure, then dusted with iatrol, using air-pressure sufficient to drive the powder to the very bottom of the spongy ulcer, then covering with a spray of ichthyol and oil.

Under this treatment the inflammation greatly subsided, and a cure was apparently in sight. Then it would increase and spread again. On May 22, noticing that the place where the pathologic specimen had been removed healed over kindly, I took scissors and snipped off all the coxcomb growth, curetted and cauterized the base. A hole one-eighth of an inch in diameter had ulcerated through the faucial pillar at this time, and fiery rays of inflammation extended well up on the soft palate.

Both local and internal treatment were continued, as before mentioned, until June 15; oftentimes the trouble seemed under control, but again apparently spread. A hypodermic injection of pure alcohol was made in several places outside of the periphery of the ulcer, and in and above the anterior faucial pillar, which was followed by considerable inflammation, swelling and pain. This, however, subsided in a few days, after which there seemed to be a circumscribed hard mass with a fiery point near the original seat.

On June 22, assisted by my son, Dr. S. L. Oren, after injecting a solution of suprarenal extract and cocain, with scissors, scalpel and forceps, I dissected, out of the side of the tongue and buccal wall, a mass about the size of an almond, curetted the base of the wound, also all apparent diseased tissue, cauterized with nitric acid, dusted with iatrol and sprayed with ichthyol and oil. This treatment was continued three times a day until July 12, 1900, when patient was apparently cured, and returned to his home in Iowa, to all intents and purposes a well man. He has taken no medicine for months, and up to this date, June 1, 1901, has no sign of any recurrence, and is as healthy as average men of his age. I acknowledge my obligations to Drs. Bishop, Brown, and Senn. It will be noticed that this case had double treatment—internally, as if specific, locally, as if malignant.

That the alcohol injection checked the spreading, there is no doubt in my mind; that the close observation and frequency of the treatment, together with the thoroughness of the applications, had much to do with the result, there can be but little question. If it was epithelioma, then we learn that these cases need closer watching than is usually given, as well as more energetic treatment.

This case is reported that it may stimulate us not to abandon these apparently hopeless cases. I saw one other similar case years ago, which was not treated, except by an antiseptic mouth wash, result fatally. The same was expected in this case.

NOTE: July 6, 1901, case shows no signs of return at this date.

DISCUSSION ON PAPERS OF DRS. JACKSON, ROY AND OREN.

DR. O. T. FREER, Chicago—In Dr. Roy's paper nasal mucous polypi are referred to as myxomata. Modern histologists consider these growths fibromata and not myxomata. Then, as to the transformation of mucous polypi into malignant growths, I think that only actual histologic demonstration of such change should be accepted as evidence of it. A growing sarcoma or carcinoma of the nose produces a chronic congestion of the surrounding mucosa that is apt to take the form of polypoid hypertrophy. For this reason polypi may be removed several times from the affected naris before the deeper seated malignant growth has obtained sufficient size to become apparent. The malignant nasal growths are thus hidden and covered by the polypi created by their advance and the picture presented is apt to lead to the false conclusion that there is a transformation from a benign nasal mucous polypus to a malignant growth.

Semon's statistics prove that the change from a benign to a malignant tumor is certainly a matter of such rarity that its existence may be doubted. This is the opinion of Jurascz, who thinks the danger of malignant changes in benign neoplasms so slight that it need have no weight in the prognosis. It certainly need not deter from operative procedures on benign growths on account of possibly exciting malignant change.

Benign growths are more in gross appearance than in fact near relatives of malignant ones; histologically they are closely allied to the hyperplasias. It is not common experience to find that the cell type of either the benign or malignant tumors undergoes change and though a malignant tumor can select a benign growth for its origin as it can other parts of the body, the actual change of the component cells of a fibroma—and mucous polypi are fibromata—into the spindle or round cell of the sarcoma or the entirely different type, the epithelial carcinoma, seems to me highly improbable.

I will state in conclusion that no one should speak of the transformation of a benign into a malignant growth unless he can prove his statement by microscopic demonstration of portions of the neoplasm before, during and after completion of such transformation. Otherwise it is well to keep silent on the subject.

Dr. John N. Mackenzie, Baltimore—This is a subject of very great importance and I can not allow the discussion to close without referring to one phase of the cancer question in the upper air-tract. I do not desire to be at all personal or speak in words of criticism of anything said this afternoon. The gentlemen have simply followed the universal practice which is authoritatively given in text-books. They have followed the general rule which is usually obeyed under the circumstances. There is no chapter in the whole history of laryngology that needs revision more than the chapter on carcinoma of the upper air-passages. It will not only have to be revised, but rewritten. I wish again to go on record as entering an earnest protest against the reckless removal of portions of a suspected malignant growth for microscopic examination. Of course, sometimes a microscopic examination will have to be made, but until every resource and refinement of clinical examination has been exhausted, the microscopic examination should not be resorted to. The microscope should be the court of last appeal. The objection I have urged to the removal of a piece of suspected neoplasm for microscopic examination is that it subjects the patient at once to the danger of autoinfection at the point of incision, and to the development of metastases elsewhere. In the second place, it stimulates the growth of cancer, and thirdly, the microscopic examination is often unsatisfactory and in the larynx itself sometimes practically impossible. When a doubtful case is presented the laryngologist loses no time in removing a piece for microscopic examination, and that too often means but the beginning of the end. In dealing with this disease we should remember that we are dealing with cancer, an infectious process. We should leave the microscope severely alone until we have exhausted every possible refinement of clinical diagnosis. The question of the operability of cancer often comes up. Whether these cases are operable or not should be decided on general surgical principles. If they are operable let them be radically operated upon; if not, let them alone. More harm is done and life is often shortened by curetting and taking off pieces, in cancer of the larynx, than by any other known procedure. I want again to go on record, in the face of the adverse criticism I have received from many, and reiterate what I have said before with all the emphasis at my command.

Dr. C. M. Cobb, Lynn, Mass.—I would like to call attention to the amelioration which may be obtained through the use of formalin. It certainly has a very good effect on the ulceration after there is breaking down. The injection of a weak solution does no harm other than the pain it produces. If you inject a solution into the growth it will produce a pain that lasts for a number of hours, but it does seem to favorably influence the growth.

Dr. J. Holinger, Chicago—I do not like to see this Section go on record as having listened to the report of a case of carcinoma of the tonsil that has been entirely cured, and nobody object to the possibility of such a thing or to the undoubted reality of the fact. There are just a few possibilities that may explain the result that we have heard. We know that there are a number of possibilities that may suggest, especially in the tonsils, the idea of the microscopic finding of carcinoma. The specific growth may have the identical appearance of a malignant growth in the tonsil. The Doctor tells us that he used specific treatment at the same time. I do not think that we should rely too much upon the microscopic diagnosis and call the case one of pure cancer of the tonsils.

Dr. C. Jackson, Pittsburg, in closing—In regard to Dr. Freer's statement, that in no case has malignant growth of the upper air-passages followed a benign growth, I would refer to a case reported by Ward, where a complete removal of a laryngeal papilloma, leaving no tissue behind, was followed by carcinoma. The carcinoma having occurred after a complete removal of the papilloma, would seem to indicate that it was not a simple papillomatous covering over a carcinomatous growth. The statement by our esteemed chairman that the text-books should be revised in regard to carcinoma of the upper air-passages is certainly true as to the naso-pharynx. I have found the text-books in that one department give statements that are radically wrong in the light of my analysis of reported cases. Of course some of the writers may have seen cases that they did not report. In regard to metastases following the removal of specimens for microscopic examination, I will say that, in regard to the naso-pharynx, of the eight cases in which specimens were removed in none were metastases reported. I doubt if that great desideratum, a very early diagnosis, can be made without the microscope. In regard to operative treatment by removing portions of a radically inoperable growth, Bosworth's case survived a year and was comparatively comfortable; Brown's case survived three years after removal with the snare. The let-alone plan yielded no better results in any case.

Dr. Dunbar Roy, Atlanta, Ga., in closing—In regard to formalin in the case reported, I was satisfied that nothing would do the patient any good, although I used formalin by injection and also by application on the surface in varying strengths. I used the formalin as high as 20 per cent., but it had no effect whatever. I am in full accord with Dr. Mackenzie in regard to his views. In the short professional life I have had so far in nose and throat work I have seen four cases of naso-pharyngeal sarcoma, and I have seen two cases of nasal sarcoma. The case I reported, when it came to me, was in the state where practically nothing could be done. The question of the change from benign into malignant neoplasm I do not think is yet settled, nor will it be settled by the microscope. That things do occur that we can not explain is true every day and by theoretical reasoning we can not always explain the changes. Where the diagnosis can be made without the microscope we should not open up any point that might lead to the spread of malignancy.

Dr. S. A. Oren, Lanark, Ill., in closing—I have reported the case as one of apparent cure. We have the clinical diagnosis by very able authority on epithelioma, and we have the laboratory diagnosis of epithelioma, yet I have not said that I was not doubtful as to its being epithelioma. I have my opinions in regard to it, but with all the inquiry I could make I could get nothing to show that it was a specific case. I am perhaps a crank on iodids. In the majority of cases of kindred troubles, whether I can get any specific history or not, I put the patients on iodids, and usually get pretty good results. The diagnosis in this case was made by as good authority, both clinical and microscopic, as we could get, and I myself do not care to criticise either the laboratory diagnosis or the authority I called in consultation. Others can do so if they choose, I have only given you the results and the treatment. I have had one other case which appeared to be an epithelioma, in which I injected alcohol in the periphery, and then dissected the growth out. I think there is a great deal in the injections of absolute alcohol in the healthy tissue to check the spread of such growths.

It will be noticed that this case grew steadily worse for weeks under specific treatment, and did not improve until after local treatment was vigorously and frequently repeated. This I also take as evidence of its not being specific and confirmatory of the diagnosis of epithelioma.

Freiburg University has conferred an honorary degree on the Khan N. H. Choksy, superintendent of the Bombay general hospital.

THE BRITISH CONGRESS ON TUBERCULOSIS.

Held in London, July 22 to 26, 1901.

LONDON, July 26, 1901.

Opening Exercises.

The British Congress on Tuberculosis has been a great success and promises to be fraught with results of the highest importance. The Congress was opened on July 22 and attended by the 2000 members from all parts of the civilized world. Arrangements of the most elaborate and complete character had been made, and the proceedings were gone through in the most orderly fashion and without a hitch. H. R. H. the Duke of Cambridge, at the request of the King, opened the Congress. Seated around him were diplomatic representatives of almost every civilized power, as well as the eminent physicians specially delegated by their governments. Among those present on the platform were Mr. Choate (American ambassador), M. Cambon (French ambassador), the Netherlands, Greek, Swedish, Portugese, Danish, Roumanian, Servian and Peruvian ministers; representatives of the governments of the British colonies; the presidents of the Colleges of Physicians and Surgeons of London, Edinburgh, Dublin and Glasgow; Lord Lister, and many other well-known medical men. A very strong contingent of Americans were present. Foreign governments and medical societies were strongly represented. Thus the French government sent no less than 23 delegates. In addition various French medical societies sent a number of delegates: L'Académie de Médecine, 4; Société de Biologie, 3; Société Médicale des Hôpitaux de Paris, 6, etc. German medical societies were also well represented, but not so strongly. The American delegates numbered 30, and represented the following institutions: Board of Agriculture, Universities of Michigan and Pennsylvania, State of Michigan, American Academy of Medicine, Massachusetts General Hospital, Boston Board of Health, American Climatological Association, American Medical Association, Pennsylvania Society for Prevention of Tuberculosis, Chicago Medical Society, Chicago Otological and Ophthalmological Society, Mississippi Valley Association, Commonwealth of Massachusetts, American Veterinary Medical Association. Town and borough councils and corporations of the United Kingdom were largely represented. The arrangements were excellent and the proceedings were marked by great cordiality and animation. A long list of speeches of representatives of the various countries were disposed of in about half an hour. They were marked by admirable brevity and to the point. Many compliments were made to England as the "native land of hygiene," to use Professor von Schrötter's phrase. Professor Brouardel, the *doyen* of the Medical Faculty of Paris, speaking on behalf of the French Republic, said that nothing could be done in the prevention of tuberculosis without public opinion, which was effectually enlisted and stimulated by those in high places. The whole ceremony was thoroughly successful.

MR. MALCOLM MORRIS, the honorary secretary-general, then read his report. He said that the movement originated at the German Congress on Tuberculosis held at Berlin in 1889, when representations were made to the British delegates as to the desirability of a London Congress. The delegates reported the matter to the National Association for the Prevention of Consumption, which took the necessary steps. Programs and circulars were sent to representatives of medical, sanitary and veterinary science, and to prominent persons in other departments of science, agriculture, architecture, education, commerce and philanthropy. Invitations were sent to the foreign governments, and to all the Colonies of the Empire. A museum had been established containing exhibits illustrating every known form of tuberculosis in man and animals.

THE DUKE OF CAMBRIDGE sent a telegram to the King informing him of the opening of the Congress. The King replied, welcoming the eminent men belonging to almost every nation who had assembled, and expressing the earnest hope that the valuable information which their deliberations would give to the world would assist in mitigating the dire disease which had baffled medicine.

LORD LANSDOWNE, the foreign secretary, said that the government would have the greatest pleasure in assisting and giving every facility to the Congress. They fully realized the immense significance of the problem. The country was passing through the sorrows of a prolonged war; but no war ever waged had brought such a burden of misfortune to the nations as tuberculosis had from time immemorial.

LORD LISTER said that they met under immeasurably better circumstances than were possible some years ago. They now knew the enemy they had to deal with, which before the discovery of the tubercle bacillus was shrouded in obscurity. Thanks to Pasteur they also knew that that microbe could not originate *de novo* in the human body; that it was always derived from the external world; hence, the splendid prospect of prevention. But they also aimed at cure. In this respect matters were much more hopeful than they had been till quite recently. The physician might learn much from the experiences of the surgeon. In surgical tuberculosis, if irritation of the part were scrupulously avoided and the general health improved, cure could be obtained. The bacillus was swept away and the part became again healthy. The Congress would also be useful by enlisting the aid of the public which was essential to the movement of the suppressing of tuberculosis.

PROFESSOR WILLIAM OSLER, of Baltimore, said that one of the largest American delegations that had ever crossed the Atlantic had come to that Congress. They had not come like some of the "trusts" of which they had heard so much of late; and yet they represented a magnificent "trust." He caused much amusement by saying that the motto of the ordinary "trust" was "damn the public," but their motto was *pro bono publico*. The work of preventing tuberculosis in the United States was being carried on with energy and zeal. He thought the Congress would educate the medical profession, which needed education, and the public which needed it more. Speaking of tuberculosis, he recalled Bunyan's striking phrase "captain of the men of death," and said that this captain had already been reduced to a lieutenant, and would be reduced to an ensign; but he could not hold out the hope of reducing him to a private, and still less of drumming him out of the regiment.

Professor von Schrötter (Austria), M. Montefiore Levi (Belgium), Profs. Gram (Denmark), Brouardel (France), Von Leyden (Germany), Ruata (Italy), Thomassen (Holland), Koranyi (Hungary), Holmboë (Norway), Cortezo (Spain), Printzjold (Sweden), and Dr. Secretan (Switzerland), also addressed the meeting.

Koch's Address on the Combating of Tuberculosis.

The address on this subject which appeared in full in these columns,[1] was delivered by Professor Koch before a large and enthusiastic audience with Lord Lister in the chair, and is undoubtedly the most important and original communication made to the Congress.

In the discussion which followed, Professor Koch was much congratulated on his valuable paper.

PROFESSOR NOCARD could not accept its conclusions with regard to the bovine and human disease. He thought experiments in France demonstrated that it was transmissible from man to cattle and vice-versa.

PROFESSOR BANG, of Denmark, feared that the opinion of so eminent an authority as Dr. Koch, which he could not accept, would be highly detrimental to the efforts now being everywhere made to secure purity of milk.

DR. SIMS WOODHEAD, president of the section on pathology and bacteriology, after paying the highest tribute to the services of the Berlin professor, expressed his own conviction that bovine tuberculosis had played some part in the extension of tuberculosis among mankind. He suggested that experiments should be made in England under the agricultural department, to test the views now propounded.

On the motion of Lord Lister, a warm vote of thanks was accorded to Dr. Koch, the whole company standing.

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[1] JOUR. A. M. A., July 27, p. 259.

The Notification of Tuberculosis.

Dr. Hermann Biggs, New York City, in opening the discussion, in the State and Municipal Section, presented a paper, read by Dr. Janeway, dealing with this subject as existing in various cities in the United States. Sanitary regulations having this object have existed in New York and some other States since 1893. The State of New York was, indeed, the first to enforce a scheme of compulsory notification. Later, Michigan, Pennsylvania, and other States had followed the example, but in some places the notification was only voluntary. It might be taken that tuberculosis was preventable, contagious, and not hereditary, and with regard to preventive measures, the following were most important—namely, careful attention to meat and milk, educating the public with regard to the harm arising from bad habits, such as indiscriminate spitting, and the necessity of careful attention to the sputa of consumptives, and the careful disinfection of houses wherein patients had died of consumption. The compulsory notification of tubercle had not been complete. Physicians had been only invited to give information as to patients suffering from tubercle, such information to be treated as confidential; but it was compulsory to notify cases in public institutions, and inspectors were then sent to make inquiries as to their sanitary conditions. In all cases where death occurred from tuberculosis, and it came to the notice of authorities, steps were taken to disinfect the premises where the death occurred. The authorities also, free of charge, examined by their medical officers the sputa of patients if submitted to them by the physician in attendance. After this regulation was introduced, during the first year 4000 samples of sputum were examined. The second year over 5000, and the increase went up in a few years to 8000. Dr. Biggs had made a report to the authorities as to the want of suitable institutions to treat poor tuberculous patients and as to the necessity for such; and that tuberculosis ought to be put more on the basis of the exanthemata. In 1897 it was resolved by the Board of Health of New York that tuberculosis was a dangerous and contagious disease, and that every physician should report to the Sanitary Bureau in writing as to patients suffering from that disease within a week of being called in. A sum of $60,000 was also appropriated to the care of poor tuberculous patients, to afford them better treatment. The notification chiefly applied to pulmonary tuberculosis as the most contagious. The law was not strictly enforced in regard to the notification of private patients by physicians and it could not therefore be said that the regulations were strictly compulsory; but public opinion was gradually diminishing the number of cases not notified. In consequence of these various measures and the better treatment of patients there had been a reduction of 30 per cent. in the mortality arising from tuberculous diseases.

Professor Osler, moving a vote of thanks to Dr. Biggs for his paper, said that the Board of Health of New York had the greatest difficulty in resisting Tammany in their endeavor to carry out sanitary reforms. Their success, in spite of this, has been wonderful and formed an object lesson as showing what could be done in spite of opposition.

Dr. S. A. Knopf, New York, then spoke in criticism of some of the papers. He approved of everything said by Dr. Biggs on compulsory notification, provided the sanitary inspector has the power of isolating poor patients in a public sanatorium. Sufficient means must be supplied from public sources for the family when the bread-winner was thus removed. Voluntary notification was good, but if the burden on friends was increased by it he would protest against it. At a conference connected with tenement houses in New York it was shown how terrible an incidence of tubercle there was at such places, and he considered the greatest blot on the sanitary administration of New York was the failure to carry out sanitary regulations in these buildings.

Dr. Reynolds, Chicago, said that in Chicago they had not come to the conclusion that it was right to insist on the notification of consumption, believing that it was the duty of the government to educate the public in this respect. They had a hospital for the tuberculous poor, and he thought the education of the public was best brought about by the daily visits of physicians, by the public press, and by medical men giving lectures at public institutes.

Prophylaxis of Tuberculosis During Childhood.

Dr. S. A. Knopf, New York, read a paper on the state and individual prophylaxis of tuberculosis during childhood, and the need of children's sanatoria. He said that the prevalence of tubercle in childhood was very great, and was often contracted by contagion, so that consumptives ought to be kept away from children. Even at birth the careless midwife might infect the child by applying her mouth to that of the infant to inflate the lungs. Tuberculous mothers would often put spoons containing food for their children in their own mouths before feeding them. Infection from kissing was also not unknown, or from the application of the mouth to the prepuce after circumcision. Children should be prevented from crawling on the floor in the dust, which often harbored bacilli, and the infant was only too prone to suck its dust-polluted fingers. Lady schoolteachers ought not to be allowed to wear trailing dresses. No teachers or children with early symptoms of tubercle should be allowed to remain at a school, and all the inmates should be examined several times a year for symptoms. Overcrowded tenements, syphilis and alcoholism tended to the production of tubercle, as also the employment of children under 14 years of age in factories for ten hours a day. The giving of poor children at public schools of a periodic sandwich or glass of milk would often ward off the onset of phthisis.

Control of Meat Supplies.

Mr. Shirley F. Murphy, London, communicated a paper entitled "What Administrative Measures Are Necessary for the Prevention of the Sale to the Public of Tuberculous Meat?" He gave a review of the procedures adopted in his country for restraining the sale of diseased meat, of the prevalence of tubercle in cattle, and of the difficulty of inspecting all meat brought into the market, as at the present time there was no need to have an animal presenting signs of disease slaughtered under conditions that would insure its inspection.

Councillor O'Neill, M.D., Belfast, referred to meat inspection in his city. For eight years he had had to contend with the butchers, but by studying the means employed on the Continent, he had gained good hints as to what ought to be done to carry out proper meat inspection. In this he had been backed up by his profession. He did not agree with Dr. Koch as to bovine tuberculosis. He was strongly of the opinion that tuberculous meat was not fit for human consumption. There was an abattoir in Belfast where every animal was examined before being slaughtered, and at the market the meat was always examined when killed outside the burough. All meat killed outside the city must be brought for inspection before being exposed for sale, and was stamped by the inspector on the request of the owner.

Dr. Coggan asked whether Dr. O'Neill had ever seen tuberculous meat give rise to human tuberculosis.

Dr. O'Neill could not give any particular case where this result could be proved, but he was firmly convinced that tuberculosis might be acquired in that way.

Sir Charles Cameron, Dublin, thought at present there was not sufficient inspection in many towns, especially where there was no abattoirs. In Dublin there was a public abattoir, but there were also forty private slaughterhouses, so that uniform and sufficient inspection was difficult. He had known a case where in the carcass of an animal which had suffered from pleuropneumonia the lungs of a healthy animal were substituted for the diseased organs. In public abattoirs this could not take place; the carcasses of animals had been known to be brought into Dublin in a hearse to disguise the fact from the authorities. He thought a skilled veterinary surgeon of great service to a sanitary department in attending to this work. There ought to be a systematic examination of all animals, and private slaughterhouses ought to be got rid of by giving equitable compensation to the owners.

Dr. Marsden, Birkenhead, Eng., said that medical officers of health were meeting under a cloud with regard to tuberculous meat. It seemed that Dr. Koch had thrown a bomb in their midst, which, whether right or wrong, was likely to impair their influence with sanitary authorities. He did not think that procedure ought to be changed. He knew no medical officer of health who ordered the destruction of animals on account of a trace of tubercle. Public abattoirs were urgently required, and there was no question as to their being necessary, both in urban and rural districts, but then came the question of compensation. A difficulty often arose in inspecting carcasses when the offal and other contents had been removed. He did not believe that the difference between general and localized tubercle was of much use for distinguishing between good and bad meat. He had known the case to be called localized tubercle when every gland in the carcass had been found diseased.

Climatology in the Treatment of Consumption.

Sir Douglas Powell, the President of the Medical Section, said that tuberculous lesions tend to heal if secured from contamination by putrefactive and suppurative organisms. A good climate might be marred by impurities, and the vivifying power of the sun might be exhausted on organic débris in the atmosphere. The best climates were Switzerland, Egypt, the Riviera, and parts of the Colonies and America; but there were many nooks and sun-traps in the British Isles where good results might be obtained for those who could not go abroad. Gain in weight was not the best test of treatment. The object was not to train the consumptive into a gastronomic athlete. Excess of weight beyond that normal to the individual was a disadvantage.

Dr. Theodore Williams opened the discussion. He divided climates into, 1, marine; 2, dry; and 3, mountain. Of marine climates the temperate ones of the British Isles were suitable for a large number of cases of chronic pulmonary tuberculosis, especially in its strumous form. The warm climates of Madeira, the Canaries, and the West Indies, were beneficial in catarrhal tuberculosis. Sea voyages were most successful, but the following conditions were necessary: 1, the patient's cabin should be well ventilated, so that abundant fresh air was supplied night and day; 2, the food should be good; 3, the voyage should be in temperate, and not in tropical seas. Sea voyages were most beneficial in, 1, hemorrhagic phthisis; 2, in strumous phthisis, accompanied by affections of glands and joints; 3, in cases of a single cavity. Dry, warm climates included the Egyptian Desert, and the Mediterranean basin. The improvement observed from them was general, more than local. The desert climate appeared to act rather in preventing the spread of the disease than in arresting that present. It seemed to most benefit cases of chronic cavity, especially in elderly persons, and in those incapable of much exercise. The climate of the Riviera and the Mediterranean was more stimulating, but liable to more vicissitudes than that of the desert. It was to be recommended in chronic phthisis, especially when complicated by inflammatory attacks, in strumous and laryngeal phthisis, and in patients with extensive tuberculization of the lungs, who were unable to bear the effects of high altitude. As to mountain climates, the effect in cases of early consolidation was remarkable. Local pulmonary emphysema was produced around the tubercular nodules, and the healthy portions of the lung became hypertrophied, necessitating enlargement of the thorax which could be proved in several ways. Expansion of the chest took place unless opposed by extensive lung fibrosis, or pleuritic adhesions. He suggested that the arrest of the disease was greatly owing to the pressure on the tubercular masses by the increasing bulk of lung tissue, which by emptying vessels, increased caseation and cretification of the tubercle. The high altitudes gave the best results of all climates, but they were most successful in early consolidation where they produced complete arrest in most cases; they were not so successful in cases of excavation. They were more beneficial to the young than to the middle-aged.

Devitalized Air Toxemia a Prime Cause of Tuberculosis.

Dr. Charles Denison, of Colorado, read a paper on "Devitalized Air Toxemia a Prime Cause of Tuberculosis." He said that life out of doors was enhanced by altitude. The perfect quality and facility in the use of the open air, the long sunshine, and the stimulation of the low temperature were the factors. The mechanical effects of diminished atmospheric pressure favored the circulation of the blood. The free and constant motion of the air, and the rapid radiation vivified the air by the production of electricity and the resulting ozone. He insisted that free ventilation, and an out-of-door life were more necessary at a high altitude than at the sea level, for the rarity of the air necessitated a greater quantity for breathing. Thus, in a hospital at the sea level 2000 cubic feet per patient would be sufficient; at the elevation of a mile, 2400 feet should be allowed. Tuberculous infection was very rare in Colorado; deaths from tuberculosis acquired in this way formed only 2 per cent. of the total mortality. A remarkable fact was that of all the cases so acquired two-ninths were of meningeal tuberculosis. The wonder was that in the crowded city of Denver in which tuberculous patients often lived with a family and expectorated on the rough wooden floor, infection was so rare.

Professor Lannelongue, Paris, contributed a paper to the discussion prepared in conjunction with Dr. Achard and Dr. Gaillard on the "Comparative Influence of Climate and Individual Resistance in Experimental Tuberculosis." Experiments as to the influence of the climate on the evolution of tuberculosis inoculated in the pleura of guinea-pigs shows that this influence was inconsiderable, and had not the importance clinically attributed to it. It was found in animals, as in man, that different individuals of the same species showed marked differences in the progress of the disease and in the nature of the lesions. Although the guinea-pig was a susceptible animal, some of these animals afforded a remarkable resistance. Some increased in weight, or even became fat, although suffering from generalized tuberculosis. In one guinea-pig a true Pott's disease was produced; there was tuberculous destruction of the third and fourth cervical vertebræ. The conclusion arrived at from these experiments might be thus summed up. In man, as in animals, it was the constitutional peculiarity of the individual—call it what you would—it was the "soil" which determined the progress of the lesion, and whether the disease should remain localized or become general, not the climate in which the patient found himself. Further, it was shown that animals kept under careful conditions of temperature, of freedom from dust in the air, and of rest—such conditions as were observed in sanatoria—had their chances of life prolonged.

Sir Hermann Weber, London, said that the previous speakers seemed to hold that though climate was valuable, open air was more important, and this view was to some extent borne out by his experience many years ago. When bakers, or clockmakers for example, came to hospital suffering from the result of their occupation or indoor life, he used to advise them to give up making bread or clocks, and to go about selling these things instead. This haphazard open-air treatment gave excellent results, although it did not include the rest which was so important a factor in sanatorium treatment. His experience did not lead him to take quite as favorable a view of marine climates as Dr. Williams. The high winds which occurred on the sea coast were unfavorable, as could be seen on studying a map of the distribution of consumption. It was not the southwest wind in particular which is disadvantageous, as was said in a recent paper before the Royal Medical and Chirurgical Society, but any strong wind. The climate of the Riviera and Egypt has not always proved satisfactory, but this was probably due to the fact that patients did not put themselves under medical supervision and did foolish things—such as over-exerting themselves—which undid the good effects of climate. Whatever climate was chosen the need of supervision was of the utmost importance, and in estimating the value of any climate it would be well to compare the results attained in that climate before and after sanatorium treatment was available. Although he had a very high opinion of climate he had a still higher opinion of hygienic and dietetic management, and great as were the disadvantages of our English climate we could cure our patients here if they would submit to the hygienic management which formed so important a part of sanatorium treatment.

Sir John Wm. Moore, Dublin, said that in his experience climate played a very secondary part in the treatment and prevention of consumption. In proof of this, he instanced a family who, under the unfavorable conditions of poverty, had gradually overcome the effects of tuberculous infection and had recovered from tuberculosis without leaving Dublin. This has been accomplished not by change of air, but by teaching them how to live and manage themselves hygienically. In striving to prevent tuberculosis we must take into consideration the ignorance of the people, as instanced by the closed bedroom windows. The disadvantages of marine climates and of strong winds might be attributed to a common cause, namely, humidity of the air. Many persons suffered marked depression whenever the air becomes nearly saturated with moisture, and this was the case at and by the sea and with southwest winds.

Professor Gram, Denmark, said that in Denmark the mortality from pulmonary tuberculosis was greater inland than on the coast. They, therefore, built all their sanatoria at the seaside.

Dr. Sandwith, Cairo, said that though Egypt was lowlying, a visitor to the desert would be struck with the similarity of the air to that one got on a mountain. Europeans living in Egypt did not develop tuberculosis, though the natives did. This showed the influence of hygiene rather than of climate, for the European lived much in the open air, whilst the native lived in foul air whilst indoors, and with unhygienic surroundings.

A paper by the late Dr. Amrein, Arosa, specially prepared for this Congress, was read by the Honorary Secretary of the Section. The diagrams of the chest of patients showed the unsound side was always best developed in the early stages of pulmonary tuberculosis. The diminished atmospheric pressure of high altitudes tended to bring about the symmetric improvement in the shape and capacity of the chest.

Mr. Quarrier, Glasgow, founder of the Scottish Orphan Homes, gave the experience of sending the children of consumptive parents from Glasgow to a farmhouse in Renfrewshire, and expressed the opinion that locality and climate had not so much to do with the cure of consumption as the practical management of the patient when he was taken in hand. The climate of Scotland was not usually considered good, yet even in this unsatisfactory climate as good results could be obtained as elsewhere, as was shown by the records of the sanatorium connected with the Scottish Orphan Homes.

Therapeutic and Diagnostic Value of Tuberculin.

Sir Richard Douglas Powell presided at the meeting of the combined Sections of Medicine and Pathology, on Wednesday, July 24.

Dr. Heron said it was now recognized that tuberculin was worse than useless in cases of tuberculosis with marked infection. For diagnostic purposes tuberculin was most valuable, for it produced its characteristic reaction whenever tuberculosis was present, and by no other means could tuberculosis be diagnosed in man so early. Dr. Heron described at some length a case in which a girl of 17 died twenty-seven hours after the injection of tuberculin for diagnostic purposes, and gave reasons against supposing that tuberculin was the cause of death. He concluded by expressing the belief that the day was not far distant when the discovery of tuberculin would be ranked amongst the most valued of the many gifts mankind already owed to Robert Koch.

Professor Koch, Berlin, said that he had shown in 1890 that tuberculin had both a diagnostic and therapeutic value. In his experience a single injection was sufficient to give a correct diagnosis in 97 to 98 per cent. of cattle. If the diagnostic injections were properly made, in the human subject, it was a very valuable method and without danger. The injections should be small enough; in weak patients one-tenth of a milligram was enough to begin with, and no second injection should be given until the temperature was again normal. When the first injection gave a faint reaction a second injection of the same quantity frequently or *indeed generally gave a very* marked reaction. This was the usual occurrence in tuberculosis. Over 3000 cases had come under his own observation, and from the study of these he had *come to the conclusion* that as a diagnostic test tuberculin was almost absolute. It was specially valuable in cases of apical pneumonia, particularly when influenza was suspected, and also in cases of pleurisy. He had never seen disadvantageous effects from the use of tuberculin when used as he had directed. In using tuberculin as a therapeutic agent, he felt no doubt that in early uncomplicated cases it was of great value, and when used in such a case a complete cure frequently followed. If the tuberculin was used in cases of tuberculosis which were somewhat advanced, it was necessary, in order to obtain the full value of the tuberculin, that the temperature should be normal before the injections were begun. The treatment, if necessary, should be extended over a considerable period, with intervals of from three to four months, until the injections gave no reaction.

Sir Richard Douglas Powell said that the great difficulty which physicians experienced was that most of the cases of tuberculosis which they saw had raised temperatures, and in the cases of mixed infection even Professor Koch did not think the use of tuberculin was advantageous.

Professor Osler said that in the Johns Hopkins Hospital, Baltimore, tuberculin had been used for a considerable time as a routine method of diagnosis. The tuberculin was, in his experience, harmless. As a therapeutic agent, although his experience was not large, he thought it must have a very limited value.

Professor Fraenkel, Berlin, pointed out that the great danger attending the use of tuberculin was that the doses were increased too much and at too short intervals, but when these errors were avoided the results in his experience had been most beneficial.

Dr. Lehys, Louvain, gave an account of the experiments which he had made with dogs and tuberculin. He found that the injection of tuberculin subsequent to that of tubercle bacilli exercised a considerable delaying influence upon the action of the bacilli, whereas without tuberculin, the animals died with disseminated tuberculosis; after tuberculin was used well-marked tubercles were formed and the dogs remained alive for very considerable periods or recovered.

Dr. Thomas C. Williams disagreed entirely with those who said that tuberculin was harmless. At the Brompton Hospital he had used tuberculin in cases of early phthisis, and was satisfied, first, that the use of tuberculin caused a certain amount of destruction of lung tissue, and, secondly, that even if at the best, tuberculin only caused a remission of the symptoms and did not cure the patient.

Professor McCall Anderson, Glasgow, thought that tuberculin was safe. As a diagnostic test it was invaluable, and as a therapeutic agent in external tuberculosis it had been almost invariably beneficial; while in internal tuberculosis relapses which undoubtedly did occur were probably due to other causes than the tuberculin.

Dr. France, Claybury, gave an account of his experiences with the patients in an insane asylum. He inoculated 75 cases, of which 20 were clinically free from tuberculosis. These 20 gave no reaction. Of the 55 suspected cases, 45 reacted; of these 45, 34 had since died, and upon 29, postmortem examinations had been made; each of the 29 showed active tuberculosis. Of the 11 who were still alive, 6 had very obvious tuberculosis. From these figures he concluded that the value of tuberculin in diagnosis was enormous.

Dr. Moeller, Brussels, said he had seen no ill effects from the injection of appropriate doses of tuberculin, but had found that some patients never seemed able to stand a quantity more than about 1 mg., even after repeated injections.

Professor Nolen, Leyden, pointed out that tuberculous patients nearly always experienced a rise of temperature if they were out of bed or at work, and did not believe that a rise of temperature was a necessary sign of mixed infection.

Dr. Heron, in closing, said that one outcome of the present discussion was the fact that in the earlier treatment with tuberculin too large doses had been given, and *that the best* effects were undoubtedly obtained by the use of small doses. He had never seen a reaction to tuberculin in a syphilitic patient not suffering *from tuberculosis*.

PROFESSOR KOCH said that the tuberculin was made from tubercle bacilli of human origin, but that the reaction was produced both in man and in cattle, and, although the two bacilli were different they possessed a common "group" reaction. It was essential that patients who were to be treated with tuberculin should be in bed. Finally, he did not wish anybody to get the idea that he himself thought there could be any antagonism between treatment by tuberculin and the outdoor treatment in or out of sanatoria. He has always insisted that the two shall go on together.

Morphologic and Physiologic Variations of the Tubercle Bacillus.

PROF. G. SIMS WOODHEAD, President of the Section on Pathology, presided at the meeting of that Section, July 23.

DR. ALFRED MOELLER, Berlin, in opening this discussion, said that quite recently it had been shown that all bacilli which were acid-fast were not necessarily tubercle bacilli. The smegma bacillus had the acid-fastness, and might be mistaken for the tubercle bacillus in such excretions as urine. The bacillus of avian tuberculosis differed, according to Fischel, from the tubercle bacillus practically only as regards its pathogenicity. Tuberculosis in cold-blooded animals was probably a modification of mammalian tuberculosis. Bataillon, Terre, and Lubarsch modified mammalian tuberculosis by passage through frogs. The author succeeded in modifying the tubercle bacilli by passage through the slow-worm. After this the bacilli only grew up to 30 C., and even after passage through warm-blooded animals. Recently a series of microorganisms closely resembling the tubercle bacillus had been found in the outer surroundings of man. As well as "Petri Rabinowitsch butter bacillus," there was the timothy bacillus (B. phlei), which had been isolated by him from timothy grass. This bacillus had all the acid-fastness of the tubercle bacillus; it grew better at 37 C. than at 20 C., but in all cases thrived better than the tubercle bacillus. The injection of cultures of the timothy bacillus into the guinea-pig was followed by results similar to those produced by the butter bacillus; but in rabbits when injected intravenously it set up lesions very similar to those caused by the tubercle bacillus. The latter, like all the acid-fast bacteria, appeared to belong to the streptothriciæ.

DR. BULLOCH, London, had repeated the experiment of Aronson, and showed that the constituents of tubercle bacillus and of the B. phlei were fat, fatty acids, wax, lipochrome, proteids, salts, and a residue of a body which contained both a nitrogen nucleus and a polysaccharid, and partook of the nature of chitin. After the removal of the fat the bacilli retained their peculiar staining power, but after the extraction of the wax with boiling benzin or chloroform they were no longer acid-fast. Moreover, the wax itself was acid-fast, so that the acid-fastness was due to the wax. There was no doubt that there were many acid-fast bacilli in nature, some obligatory parasites, some facultative parasites, and others saprophytes, and the relation of these acid-fast bacteria to one another required careful investigation. There was no evidence that there were genuine endospores formed by the members of this group of bacteria.

PROFESSOR ADAMI, Montreal, was impressed with the great differences which were shown by the cultures which came from the different laboratories, and thought that no great progress could be made in determining the relationships of the different acid-fast bacteria until bacteriologists had determined to use standard media. The effects of the use of this standard medium were well exemplified in the cultures of Mr. Swithinbank exhibited in the museum, and he thought that the time had arrived for an international standardization of media.

DR. MARMOREK, Institut Pasteur, Paris, was of the opinion that the close connection which had been shown to exist in the external aspect of the acid-fast bacteria made it very necessary to be careful in making distinctions between the tubercle and paratubercle bacilli. One could say that of all these microbes only those were tuberculous which gave to laboratory animals the lesions known as tuberculous.

DR. KOSSEL, Berlin, pointed out that Weber had not succeeded in producing the "progressive lesions terminated by death," which were so characteristic of the true tubercle bacillus, by the injection of other acid-fast bacilli.

Milk Infection.

DR. LYDIA RABINOWITSCH, Berlin, gave an account of her experiments with the milk of cows, both tuberculous and normal. She had failed to find tubercle bacilli in cows which had stood repeated tests with tuberculin; on the other hand, she had frequently found tubercle bacilli in the milk of cattle which had sound udders. She had failed to find them, on occasion, in the milk of cattle suffering from tuberculous udders, although their presence was easily demonstrated in the tissues of the udders after death. The microscopic examination of the centrifugalized deposit of milk was unsatisfactory. The only reliable test was that of animal experiment, which was wearisome. The tuberculin test was therefore the only rapid and reliable method of diagnosis.

DR. E. J. MCWEENEY said that in his experience tuberculous mastitis was rare. His experiments with 16 cows which reacted to tuberculin showed that unless the udder was tuberculous no tubercle bacilli could be demonstrated in the milk and considered that in such cases the tubercle bacillus gained access from the sputum, dirty cans, etc.

PROFESSOR NOCARD, France, spoke of the danger of spreading tuberculosis in the butter and the cheese-making countries on account of the custom of giving the residue to calves and pigs. He considered that it had been conclusively shown that there was also a great danger for young children. In England the mortality from general tuberculosis had declined 49 per cent. in 90 years, whilst it had been increased in the case of abdominal tuberculosis by 27 per cent. It was very important, therefore, to take every precaution with the milk.

PROFESSOR HAMILTON, Aberdeen, raised the question whether a calf would become tuberculous if suckled by a tuberculous cow with sound udders. According to Wilson, of Aberdeen, the calves were unaffected.

DR. RAVENEL, Philadelphia, said that he inoculated guinea-pigs with the mixed milk from 5 cows which were tuberculous, but which had sound udders; 12.5 per cent. of these died of tuberculosis. In Pennsylvania the tuberculin test was implicitly relied on, but periodic bacteriologic examinations of milk were made, and also inspection by veterinary surgeons.

PROFESSOR WOODHEAD, Cambridge, agreed that feeding experiments were useless for diagnostic purposes, intraperitoneal injections being the only reliable method of diagnosis in the case of milk. He was of the opinion that the milk of a cow with mastitis which gave the tuberculin test should be condemned or sterilized. He felt certain also that the tonsillar glands might be infected through ingestion of tuberculous milk, even though the mucous membrane of the alimentary canal resisted the bacilli.

PROFESSOR BANG, Copenhagen, said that in his experience it was rare to find tubercle bacilli in milk when no tuberculous lesions of the udder were present. Out of 63 cows with advanced tuberculosis, but with healthy udders, only 9 gave milk which produced tubercular lesions in the guinea-pig, and only one which caused the death of the guinea-pig.

Diagnosis of Tuberculosis in Animals.

SIR GEORGE BROWNE presided at the meeting of the Veterinary Section, on July 23.

PROFESSOR DEWAR, principal of the Royal Veterinary College, Edinburgh, in opening the discussion limited his remarks to the bovine species. The first appearance of the disease was not unfrequently manifested by a rough, harsh sound in the throat during respiration. The diagnosis might be confirmed by the presence of tuberculosis in the herd and clinched by the appearance of a lump in the neck, which became adherent to the skin over a single central area. In about 75 per cent. of the cases the thoracic organs were easily affected, and the question became that of diagnosing the disease within the chest. The essential points of distinction from chronic bronchitis, bronchopneumonia, pulmonary hydatids, contagious pleuropneumonia, and the passage of foreign bodies forward from the stomach, were discussed. The prolongation of the vesicular murmur during expiration was pathognomonic of the disease, but this sign could only be depended on when the surroundings were absolutely quiet. With regard to other organs the udders were affected in about 3 per cent. of the tuberculous cows; swelling was as a rule diffuse, and the physical characters of the milk were little if at all changed. Bacteriologic diagnosis was of most value when applied to the examination of milk, but might also be employed in the investigation of mucus from the nose or pharynx, and of fragments removed from the mamma or elsewhere by means of the pathologic harpoon. Tuberculin was the most efficient, reliable and practical means of diagnosing tuberculosis. For its full and successful use it was necessary, 1, to have a thoroughly reliable tuberculin prepared by a competent pathologic chemist, and carefully tested before being sent out for general use; 2, to keep the herd to be tested quiet and undisturbed for ten or fifteen days prior to the application of the test; 3, to allow the veterinary surgeon perfect freedom and every facility in the application of the test. In the use of the test the temperature should be estimated in relation not to arbitrary standards, but to the average normal temperature of the animal itself; most animals show after the injection a rise of more than 2 F.; more than this should indicate tuberculosis. The temperature should be taken every two hours after the injection. If all these precautions were followed, at least 98 per cent. of the results would be correct and definite.

Professor Nocard regarded the tuberculin test as almost infallible. He gave details as to the diagnosis of tuberculous disease of the udders and uterus, and strongly advocated the use of the pathologic harpoon.

Dr. Malm, Norway, had had the tuberculin test in constant use since 1891, and strongly advocated taking the temperature hourly, or at longest every two hours, after the injection. He had seen many cases where it reached its maximum from the second to the fourth hour after injection, and had become normal again by the twelfth hour. The test was absolutely decisive if used under stringent conditions. He employed Koch's 1890 tuberculin, of uniform strength, gave large doses, 0.5 to 1 grm, and took the temperature hourly for twenty hours. The fever which might be induced in non tuberculous animals was not typical. If the beast had become accustomed to tuberculin by repeated injections, stronger doses must be employed. All his results had been confirmed by necropsies.

Dr. Schutz, Berlin, held that the microscopical diagnosis of tuberculosis was not nearly so easy in the lower animals as in man; caseation was specially ill-marked in the pig and sheep. In the mammæ of cows the appearances were much more those of chronic mastitis than of ordinary tubercle. Moreover, in the milk itself other bacilli might be found which were microscopically indistinguishable from those of tuberculosis, which could only be certainly detected by inoculation into guinea-pigs. By experiments on artificially infected animals it was found that the susceptibility to tuberculin had a latent period, then rose suddenly and fell gradually.

Dr. Bang, Copenhagen, agreed with Professor Nocard as to the importance of clinical examination of the mammæ and uterus. He objected to Dr. Schutz's criticisms of the microscopic diagnosis and stated that 99 per cent. of cows whose milk he had pronounced tuberculous after microscopic examination were found to have tuberculosis of the udder.

Professor McFadyean, London, held that bacteriology was more essential in diagnosis than Professor Dewar had made out, as the diagnosis had to be made earlier than in man. In 80 per cent. of these early cases the tuberculin test was alone conclusive; harpooning was not readily permitted in England. He thought Dr. Malm's views as to the infallibility of the tuberculin test were a little in excess of the truth. Experiments both in England and France had shown that artificially tuberculous cows might show no reaction for as long as fifty days after infection. He considered the test at an early stage better than all the others together, but not infallible.

Dr. Huytra, Hungary, had found only 2 per cent. of failures with the tuberculin test. He regarded a rise to 40 C. as a positive indication of infection.

Prof. Owen Williams commented on the absence of reference to such sources of infection as the horse, dog, cat and bird. He held that the failure of inflamed mammæ to subsequent atrophy was strong presumptive evidence of the tuberculous nature of the disease. He had found the tuberculin test almost infallible.

Professor Edgar held that our clinical powers of diagnosis had, if anything, deteriorated during the past twenty years. He strongly supported the tuberculin test when sources of error, for example, its application by unscientific people, were eliminated.

Professor McEachran, Montreal, stated that the errors in the use of tuberculin in Canada and the United States amounted to less than 2 per cent. Udder infection was rarer, but uterine more common, than generally believed.

Mr. Villar confirmed the value of tuberculin in early cases, but stated that animals which had mastitis and reacted to injections were yet subsequently shown to be non-tuberculous.

Mr. Laithwood, Cheshire, had found that 96 per cent. of the cases in which tuberculin gave a positive result were confirmed by slaughter, and that 80 per cent. of the infected animals showed a maximum temperature from the twelfth to the fourteenth hour after injection. He found that many cases recovered after six months' isolation and open-air treatment. He had come to the conclusion that manual examination of udders was insufficient to exclude tuberculosis from the milk supply.

Mr Lloyd, Manchester, stated that about one-third of indurated or hypertrophied udders were tuberculous.

Tuberculosis and the Milk Supply.

Mr. J. A. W. Dollar, M.R.C.V.S., continued the discussion in the Veterinary Section on July 24, by first considering the relations between bovine and human tuberculosis. He thought that Professor Koch had brought his evidence forward at an inopportune time. Mr. Dollar, while admitting Professor Koch's logic, quoted what he regarded as almost experimental facts illustrating the transmission of tuberculosis from lower animals to man.. He considered that for the transmission of bovine tuberculosis to man a certain concentration of the bacilli by the digestive tract was necessary, and gave this as one of the reasons for the rarity of primary tuberculosis of the bowel in children and in men. He proceeded to review the statistics of bovine tuberculosis in Europe, comparing the proportion of tuberculous cows as shown respectively by the slaughterhouse and tuberculin tests; his facts as regards tuberculosis of the udder were in general agreement with those of previous observers. He warned his hearers against the fallacy of believing that goats were insusceptible to tuberculosis, upon which view goat's milk was commonly given to children. Nocard has shown that tuberculous mastitis could be induced in goats by injecting tuberculous milk beneath the stripped udder. Tuberculosis was also found to attack asses and sheep. Mr. Dollar next discussed the methods of preventing the spread of tuberculosis by milk, comparing the advantages and drawbacks of pasteurization and sterilization, and giving examples of commercial establishments supplying pasteurized milk. He cited examples showing the possibility of eradicating tuberculosis from herds of milch cows, and the success which had attended commercial establishments supplying milk from guaranteed tubercle-free herds. He commended Professor Bang's system of stamping out tuberculosis, and quoted the experiments made on this system in Belgium, Canada, and the United States of America.

Prof. McLaughlin Young thought that the expressions of opinion hitherto given had erred somewhat on the side of overcaution, and that the Congress should give an authoritative opinion on the points at issue. He stated that the authorities were much laxer in milk than in meat inspection. He pointed out that the tuberculin test was a good one, but abused by unscrupulous persons who fortified diseased animals against it by previous injections. He held that powers of examination of all cows by the test should be granted.

Dr. Stockman stated that he did not believe that milk could be infected in the absence of tuberculosis of the udder. He held that there should be compulsory notification of udder tuberculosis and slaughter of the beasts. He considered that harpooning was not superior to bacteriologic examination of the milk, and that inoculation experiments were impracticable. The presence of inflammatory cells in the milk should render a cow suspect.

Prof. Owen Williams suggested that tuberculin should be sold as a poison in order to avoid its fraudulent use, and that funds for compensation of owners might be raised by small duty on all sales.

Mr. Montefiore Levi, Belgium, stated that there had been great difficulty in Belgium owing to the use of imperfect tuberculin. He recommended the use of milk from good strains of hornless goats for use in sanatoria.

Mr. Martin recommended the bi-monthly inspection of cows, the isolation of all having udder disease, and the prevention of the sale of tuberculin to unqualified persons to fortify their cattle against the test.

Professor Axe, representing the British Dairy Farmers' Association, stated that the conviction of the Association that bovine tuberculosis was transmissible to man was much weakened by Professor Koch's statement. He himself had found that the proportion of animals in a herd giving the tuberculin reaction varied directly as the amount of confinement within doors.

Professor Bang said that since 1898 all cows in Denmark with udder tuberculosis had been killed. Milk from all suspected cows was sent to his laboratory, and the diagnosis of tuberculosis there made was confirmed by necropsy in 99 per cent. He had found that in only 14 per cent. of tuberculous cows with clinically healthy udders did the milk cause tuberculosis when injected into guinea-pigs. Ostertag had shown that the milk of cows which were tuberculous only to the tuberculin test was non-infective. Professor Bang admitted the value of the outdoor treatment, but held that infection was all-important; a sound herd might always be kept within doors without becoming tuberculous.

Dr. McWeeney was so satisfied with the tuberculin test that he regarded a necropsy as faulty which failed to reveal tubercular lesions in an animal which has responded to it. He had, however, seen two cases which proved to be tuberculous after having failed to respond.

Mr. Dollar, closing, said that in France peasants who had herded with their cattle had been found very liable to tuberculosis, and that in Queensland cattle tuberculosis was very rife; in spite of the herds being constantly in the open air. He thought the Section was in general agreement upon four points, namely: 1. The necessity for periodical inspection of herds. 2. The advisability of slaughtering cows with tuberculosis of the udders. 3. The advisability of compulsory legislation for the whole country. 4. The unwisdom of allowing Professor Koch's dictum to cause a relaxation in present efforts to keep the milk supply pure.

Tubercle Bacilli in Cow's Milk as a Source of Tuberculosis in Man.

The general meeting of the third day was taken up with the consideration of tuberculosis in animals. Earl Spencer presided over the large gathering, and spoke of the distinguished position of the essayist of the afternoon, one of the vice-presidents of the Section on Tuberculosis in Animals. He is principal and professor of comparative pathology and bacteriology of the Royal Veterinary College, and editor of the *Journal of Comparative Pathology.*

Prof. John McFadyean, M.B., C.M., B.Sc. (Edin.), F.R.S.E., M.R.C.V.S., then delivered his address on the above subject. He said that "to-day" the position of anyone who undertook to discuss the intercommunicability of human and bovine tuberculosis was very different from what it would have been a week ago, for in the interval the greatest living authority on tuberculosis—the world-renowned discoverer of the tubercle bacillus, and the man to whom we were mainly indebted for our knowledge of the cause of tuberculosis—had declared his conviction that human and bovine tuberculosis were practically two distinct diseases. He did not know how far the reasons assigned by Dr. Koch for the opinion which he now held on this question might have commended themselves to the members of this Congress, and he was overwhelmed at finding himself in a position which compelled him to offer some criticism on the pronouncement of one the latchet of whose shoes he was not worthy to unloose. That bovine and human tuberculosis were identical diseases was generally supposed to have been finally determined by Dr. Koch himself when he discovered that the human and the bovine lesions contained bacilli that were identical in morphological, tinctorial, and cultural characters, and showed that the artificial cultures from both sources produced indistinguishable effects when they were employed to infect a variety of animals.

What were the grounds upon which they were asked to discard convictions that appeared to rest on such a solid basis? He should endeavor to state them briefly, as he understood Dr. Koch's train of reasoning: "1, The bacilli found in cases of bovine tuberculosis are much more virulent for cattle and other domestic quadrupeds than the bacilli found in cases of human tuberculosis. 2. This difference is so marked and so constant that it may be relied upon as a means of distinguishing the bacilli of bovine tuberculosis from those of the human disease, even assuming that the former may occasionally be found as a cause of disease in man. 3. If bovine bacilli are capable of causing disease in man, there are abundant opportunities for the transference of the bacilli from the one species to the other, and cases of primary intestinal tuberculosis from the consumption of tuberculous milk ought to be of common occurrence. But postmortem examination of human beings proves that cases of primary intestinal tuberculosis are extremely rare in man, and, therefore, it must be concluded that the human subject is immune against infection with the bovine bacilli, or is so slightly susceptible that it is not necessary to take any steps to counteract the risk of infection in this way." He ventured to submit that at least one of the premises contained in that argument was not well founded, that the others had little or no bearing on the question, and that there still remained reasonable grounds for regarding tuberculous cows' milk as distinctly dangerous to human beings. The evidence in favor of the view that the ingestion of tuberculous milk was one of the causes of human tuberculosis included a number of recorded cases in which the relationship of cause and effect appeared to be obvious. In the Hospital for Sick Children in Great Ormonde Street, London, George F. Still found that in 29 per cent. of the cases of tuberculosis, primary infection appeared to have taken place through the intestine. In the Royal Hospital for Sick Children at Edinburgh, Dr. Theodore Shennan found 28 per cent. The late Sir Richard Thorne was convinced that tuberculous milk was the main cause of tabes mesenterica in children. His reason was that the statistics for the last 50 years show a marked decline in the death-rate from phthisis—the form of tuberculosis resulting from inhalation, while only a slight decline took place in the death-rate at all ages from that form of tuberculosis which is ascribable to alimentary infection and in children under one year there was a notable increase. The number of persons who became infected by milk could not be ascertained, but some estimate might be formed from certain facts. About 30 per cent. of all the milch cows were tuberculous in some degree. But the milk did not appear to be dangerous until the udder became diseased, and only about 2 per cent. of milch cows were so affected. Milk from tuberculous udder contained bacilli in enormous numbers, and the disease was not attended by any pain or tenderness for a considerable time; so that the gravity of the condition was not realized. To prevent this danger Professor McFaydean advocated a periodical examination of cows by competent inspectors. Less effective, but more easily carried-out measures, were a compulsory notification of udder disease and of any symptoms of tuberculosis in milch cows, and the interdiction of sale of milk from animals suffering from this disease.

A great deal of the milk in the market contained a considerable quantity of dust and dirt, most of which came from the cow's udder and the hands of the milker, and part from the dust of the air of the cowshed. When thirty per cent. of the cows in a byre were tuberculous, the dirt in that building, and the atmosphere in it, were almost certain to contain tubercle bacilli, and some of these were very likely to find their way into the milk. The more dirt milk contained the greater was the chance that tubercle bacilli from that source might be present. The present state of the law in Great Britain, or rather the almost entire absence of any law, dealing with tuberculous udder disease in cows was a scandal and a reproach to civilization. It scarcely sounded credible, but it was a fact that the owner of a cow in the most advanced state of tuberculosis, and exhibiting the most manifest signs of udder disease, might sell that cow's milk for human food as long as the sale had not been specially interdicted on the certificate of a veterinary surgeon, and no penalty attached to this crime of deliberately or carelessly placing on the market a food material charged with the germs of a dangerous disease. In the interests of public health, the sale of milk from tuberculous udders, and from cows that were obviously tuberculous in any part of the body must be stopped, and it must be declared illegal to keep such animals alive. In conclusion, he would venture to express the earnest hope that the Congress would not endorse the view that it was inadvisable to take any measures to prevent the transmission of tuberculosis from the lower animals to human beings. To justify the introduction of measures to that end it was not necessary to contend that this was a common method of infection, or that the danger arising from milk could for a moment be compared with that present in human sputum. The inhalation of tubercle bacilli expelled from the bodies of human patients was, doubtless, the great cause of human tuberculosis, and every practicable means of preventing infection in that way ought to be employed; but, at the same time, they ought not to concede to the milkmen the right to sell tubercle bacilli, even if they were assured that—like Dr. Koch's experimental pigs—they had nothing to fear beyond the development of "little nodules here and there in the lymphatic glands" of our necks and "a few gray tubercles" in our lungs.

Sir J. Crichton Browne, who had taken the chair, said the attention with which they had followed the address showed how fascinating Professor McFadyean had made a rather grim and unesthetical subject. The address confirmed the view that further investigation was necessary before they could accept Dr. Koch's conclusions, and he urged the need for a Royal Commission. He hoped there would be no unnecessary delay in the investigations at home. In the meantime, he thought we should run no risks in Great Britain. He moved a vote of thanks to Professor McFadyean.

Professor Nocard, France, expressed his complete accord with Professor McFadyean's views. In France they realized that all forms of tuberculosis were dangerous and to be guarded against. The French Government carried out exactly the suggestions with regard to the inspection of dairies suggested by Professor McFadyean. He seconded the motion.

The Sanatorium Treatment of Consumption.

Prof. Clifford Allbutt read a paper on this subject. He said that there was much supineness as to the early diagnosis of phthisis. Whenever a man complained of being overwrought, of off color, consumption should be suspected, cough or no cough. Hemoptysis should never be set down to the rupture of a blood vessel in the throat. The absence of bacilli from the sputum should not be regarded as an indication of safety. Pleurisy, however old, should never be forgotten. If there was no fever, a high pulse with low arterial pressure should cause watchfulness, especially if there was a loss of weight, and a tendency to sweat. The chest should be percussed with the patient seated on a wooden chair without a cushion. The larynx should be examined, if only for detecting change of color. There was no specific climate for consumption, nor even a best climate. The importance of sunlight had been exaggerated. At Davos, patients did as well in the darker, as in the brighter winters. The most general terms in which the question of climate could be expressed were these: The coldest climate which the patient can tolerate, if the air is dry, clear, and still, is the best. It calls for the most food, and stimulates the appetite, but much depended upon age. Air which would stimulate a patient of 35, might cause one of 55 to shrivel up. In the sanatorium treatment of consumption three degrees of recovery might be distinguished: 1, rest; 2, obsolescence; 3, *restitutio ad integrum*. The last was too curious to be considered. If the term of residence sufficient to obtain obsolescence were required sanatorium treatment would be nipped in the bud; for to obtain obsolescence even in the first stage, two winters and one summer at least were necessary, and in many cases three winters and two summers. But how many even of the easier classes could do this? However, a distinction should be made between a pathologic and an anatomic cure. To obtain the latter, a period of three to six months' residence was required. Then the patient could return to a clean home and a wholesome occupation. Professor Allbutt protested against the treatment of phthisis as an abstraction, and not of the individual; and of thrusting too much food on the patient. In one case that he observed a patient was stuffed on the most modern system; was nauseated and losing ground, much to the disappointment of his medical attendant. On examination, Professor Allbutt found that his stomach was dilated with food and enlarged, like a haggis. Milk, he thought, was given too profusely.

Dr. Phillip, of Edinburgh, said that hyperaeration was a *sine qua non*. The freest access of air should be allowed day and night, provided the patient were sufficiently clad. He never troubled as to what was the temperature of the air to which he exposed patients. Rest should be enforced if the temperature was over 100.5 or the pulse above 90. As the patient improved exercise should be taken, which should be gauged by the pulse and temperature. The regular use of the cold bath was quite possible and advantageous. No special climate was necessary for the erection of a sanatorium. One might be erected anywhere, provided the place was not exposed to any noxious influence. He had never seen any harm from the open-air treatment. Even in dying patients the distressing symptoms were relieved, and euthanasia promoted. The proportion of cures obtained by him, in his sanatorium near Edinburgh, the climate of which had been described as one of the cruelest in the world, was 50 to 60 per cent., and with admission of the cases in an earlier state, he had no doubt that a still higher proportion could be obtained.

Mortality from Phthisis in England and Wales During the Last Forty Years.

Dr. John Tatham, of the general register office, read this paper. He said that the mortality from phthisis in the four years 1896 to 1899 was in males 1521 per million living, and 1141 in females. The liability to phthisis began somewhere between the 15th and 20th year. In males the death-rate at the age group 15 to 20 was 908 per million, and attained its maximum at 45 to 55, when it reached 3173. Among females of 15 to 20 it was 1165, and attained its maximum, 2096, at 35 to 45. Comparing the period 1896-99 with 1851-60, the phthisis mortality in males had been reduced from 2579 to 1521 per million: in females from 2774 to 1141. The effect of employments is remarkable. Thus between the same adult ages the tin miners had 508 deaths from phthisis, as against 69 among the coal miners. Dr. Körösy, of Buda-Pesth, reported that in Hungary printers suffer most from consumption, and after them come shoemakers, dyers, millers, joiners, masons, tailors, bakers, and so on—showing how largely trade influences the mortality.

Heredity in Tuberculosis.

Dr. Edward Squire, physician to the North London Consumption Hospital, said that in 1894 in a paper presented to the Royal Medical and Chirurgical Society, he gave reasons for considering that the influence of heredity was not so great as was believed. Although about 33 per cent. of consumptives gave a family history of tuberculosis, there were reasons for attributing the disease to occupation in the greater number of the cases, and he placed the influence of heredity at 9 per cent. Recently, on looking through a number of life insurance claims, he obtained some figures bearing on the subject. Of 469 claims in which the required information was available, he found 78 deaths from tuberculosis, of which only 7 had a history of consumption in the family. Twenty-two other cases of death from causes other than tuberculosis, gave phthisical histories. Thus, in 440 cases, free from consumptive taint, 71, or 16 per cent. died of tuberculosis; and in 29 cases with consumptive family history, 7 or 24 per cent. died of tuberculosis. Therefore the excess in percentage of deaths from tuberculosis, in cases with a consumptive family history over deaths in those without it was 8 per cent.—a result curiously near the original figure at which he had arrived.

Influence of Raw Meat on the Evolution of Experimental Tuberculosis.

Professor Chantemesse read this paper, which he had prepared in conjunction with Professor Cornil. Richet and Hericourt published experiments showing the beneficial effects of raw meat in tuberculosis, in dogs; but their observations were open to the objection that the quantity of meat given was not measured, and that the good effect obtained might have been merely due to the fact that the dogs preferred ate larger quantities of raw meat than they would have eaten of boiled. To exclude this influence the following experiments were made. Six couples of dogs, each of the same weight and appearance, were taken. One of each couple was fed with boiled meat to satiety; the other was given an equivalent quantity of raw meat. Both were inoculated in a vein of the leg with tuberculosis. The dogs fed with boiled meat died at intervals varying from 3 weeks to 4 months. The necropsies showed general tuberculosis, more or less voluminous caseous granulations, and advanced fatty degeneration of the liver. Those fed on raw meat were killed at the same time. They were all plump: they showed less numerous tubercles than did the others, and less voluminous and less caseous granulations. In another experiment a dog was inoculated with tuberculosis and given 750 grams daily of raw meat. He preserved his strength, weight, and healthy appearance. He was killed at the end of 12 months. The necropsies showed a small number of tubercles in the viscera and tubercular interstitial nephritis. He was on the way to recovery. Two monkeys were inoculated with tuberculosis. One was fed on the ordinary diet, and died at the end of 23 days of general tuberculosis: the other was fed on raw meat from 15 days before the inoculation, and lived for 49 days. Professor Chantemesse and Cornil therefore conclude that the utility of a raw meat diet in tuberculosis, consisted not in over-feeding, but in the antituberculous quality of the diet.

The Treatment of Tubercular Laryngitis.

Dr. St. Clair Thomson said that the statistics of the Brompton Consumption Hospital showed that the larynx was affected in over 50 per cent. of fatal cases of pulmonary tuberculosis. As 70,000 persons died annually from this disease, at least 35,000 of them would require treatment to mitigate their sufferings. Few of the recent text-books on laryngology contained any reference to the treatment of laryngeal tuberculosis by modern hygienic treatment. He deprecated the various local methods which from time to time had been vaunted. Their very number was eloquent of their inefficiency. Applications of lactic acid in the last ten years had obtained such vogue that they were used even in the most unsuitable cases, injuring the patient's health. Freudenthal, who used it freely, stated that "it ought to be dispensed with as antiquated and barbarous torture of the patients." (Jour. A. M. A., March 16, 1901.) We must look elsewhere than to surgical measures for progress in the treatment. This progress was ready to hand in the making of an earlier diagnosis. Then under this condition the sanatorium treatment with good food could be carried out. and rest of the voice should be insisted on. Catarrhal, or obstructive affections of the nose and throat, and intercurrent conditions of the larynx should receive suitable treatment.

Reception by the King.

The King received the foreign delegates to the Congress, who were presented by the Earl of Derby. His Majesty said: "Gentlemen, let me express to you the great pleasure and satisfaction it has given me to ask you to come here to-day. It has been a source of great concern to me that, owing to circumstances over which I had no control, I was prevented from presiding at the opening of your important Congress, and attending its meetings; but I can assure you that, though not present, I take the deepest interest in its proceedings, and that I follow, through the medium of the daily press, with much interest the papers and discussions. There is no more terrible disease than consumption, and I only hope and trust that you may be the means of minimizing its evil effects, and thereby receive the gratitude of the world."

Final Meeting: Resolutions.

The final meeting of the Congress was held on July 26, with the Earl of Derby in the chair. The following resolutions were unanimously adopted:

1. Tuberculous sputum is the main agent for the conveyance of the virus of tuberculosis from man to man. Indiscriminate spitting should, therefore, be suppressed.
2. All hospitals and dispensaries should present every outpatient with a leaflet on the prevention of consumption, and insist on the use of a pocket spittoon.
3. That notification of tuberculosis should be established, when possible. If compulsory notification is impracticable, voluntary should be encouraged.
4. The provision of sanatoria is an indispensable part of measures for the diminution of tuberculosis.
5. Medical officers of health should use all their powers and relax no effort to prevent the spread of tuberculosis by milk and meat.
6. That in view of the doubts thrown on the identity of human and bovine tuberculosis, the government be requested to institute an inquiry into the subject.
7. That the educational efforts of the great national societies for the prevention of tuberculosis are deserving of support.
8. That a permanent international committee be appointed to report on the measures for the prevention of tuberculosis in different countries, to publish a popular statement of these measures and to keep and publish a record of scientific research in relation to the disease.
9. Overcrowding, defective ventilation and the damp and insanitary dwellings of the working classes diminish the chances of curing consumption and are predisposing causes of the disease.
10. The attention of governments and charitable persons be called to the necessity for establishing anti-tuberculous dispensaries.

The following subject was proposed for the consideration of the next Congress: "The constitutional conditions of the individual, which predispose to tuberculosis, and the means by which they may be combated."

A pleasant feature of the closing procedure was the heartiness with which Professor Brouardel and Dr. Gerhardt, as spokesmen of the foreign delegates, joined in the vote of thanks to the organizing committee, and especially to the chairman, Lord Derby. The French professor, in the name of the President of the Republic, invited those present to the Congress two years hence, in Paris. Lord Derby, replying in French, accepted the invitation, and assured M. Brouardel and his colleagues of the heartiest co-operation of the "Section Britannique" when the assembly gathered in the capital of the Republic. The last meeting was well attended, a large portion of the 2500 members of the Congress being present, and all expressed themselves as realizing that no expense had been spared to make the gathering one worthy of the high object for which it was called together. Its members have gone to their homes realizing that a new gospel of hope has been proclaimed.

Antiseptic Function of the Pancreas.—Zaremba affirms the existence of an antitoxin for diphtheria in the pancreas, and states that it is found in quantities even in the newly born. Experimental diphtheria intoxication was neutralized in every case with the extract of the pancreas from newborn infants and children, except in the case of death from chronic affections of the gastro-intestinal canal. The antitoxic function of the pancreas is therefore destroyed or checked by certain chronic affections of the intestinal infections. The antitoxin in the pancreas rapidly vanishes after death, and consequently, this research required an extract made from the pancreas two hours after death.—*Sem. Med.* from *Arch. f. Verdau. Kr.* vi, 4.

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A NOVEL THEORY OF CANCER.

An Australian physician, J. H. Webb,[1] offers a theory of cancer that will be novel to at least a majority of the profession. He rejects the parasitic theory that has lately been so prominently to the fore, holding that thus far no sufficient evidence has been adduced to support it. Nor does he look to the microscope for the solution of the question of the origin of malignancy; "all the microscopes that were screwed up and down could never have revealed to us the connection between myxedema and the thyroid gland—one of the most important discoveries made in recent years." Supposing, he says, myxedema had only been recently recognized and our knowledge of the function of the thyroid still withheld, what a search there would have been after its germs. Taking what clues we have to the disease, he sees little to favor the irritation theory of the excitation of the irregular cell proliferation and much more to suggest a secretory derangement. All secretions, he postulates, have their uses and the plus or minus of any secretion beyond certain limits means disease. All reproduction requires control or, given nutrition, it would be indefinite. There must, therefore, be something that *limits the proliferation of the cell*, and on account of its variability, he thinks, it can only be a *secretion*, which may be disordered in nature or in its control. If inhibition is lost and food supply continues, proliferation becomes indefinite; hence, there must be something in the organism that regulates the multiplication of the cell.

Cancer is the uncontrolled proliferation of one of the two ultimate tissue element—cells and fibers. If one of these can lose its control it stands to reason, he says, that the other can do the same, and we find this in myxedema, which is uncontrolled proliferation of the fiber. We know that myxedema is due to defect of the thyroid secretion and by analogy we should expect to find somewhere in the economy a similar body controlling cell proliferation, though the conditions are not exactly the same, since the cell, like a flask, can contain its own control. Reasoning thus, Webb turns to the liver secretion, the coincidence of gallstones and malignancy and our ignorance of the real function of the liver secretion suggesting the analogy. Mayo Robson and others have noticed this coincidence and some have written of cholesterin irritation in the causation of cancer. Cholesterin, which Webb at first believed to be the controlling agent of cell-growth, is only isolated in its crystalline state, that is, when it has become a morbid product. In the organism it is in solution and kept thus by its own solvent soap. Under this impression, that cholesterin was the controlling agent and had become deficient, he tried injecting it hypodermically in cancer cases in solution with soap, *at the same* time administering thyroid. Later he has apparently used soap solution alone with the thyroid, and he reports some striking results as well as frankly acknowledging some failures. He reports two cases of epithelioma as cured and two more strikingly relieved; also one case of scirrhus of the breast and one of rodent ulcer cured. The cell element first disappears under the treatment, leaving the fibrous tissue behind, to be absorbed later.

It is not the lack of cholesterin that causes cancer, according to this theory; its crystals can be isolated from cancer discharges; it is the want of the saponifying agent in Webb's opinion, and he thinks it is one of the functions of the liver to produce this. Both the ultimate elements, fiber and cell, enter into cancer, hence the use of the thyroid. The cell, it may be from an injury, "sheds its cholesterin and the succeeding offsprings acquire the habit," and this is where Adami's "habit of growth" hypothesis comes into play.

Whatever may be thought of this theory of the pathology of cancer, if Webb's diagnoses can be relied upon, and their apparent lack of pathologic verification suggests a possible doubt, the results reported by him are worthy of consideration in a disease that is so generally resistant to our best efforts. Any therapeutic suggestion that is not itself deadly is at least worth investigation in such an almost universally hopeless disease. The theory is an ingenious one and seems to us novel. The idea of glandular influence on cancer *production is*, it is true, not altogether new; it has been suggested by Beatson, but in an entirely different way. The parallelism here drawn between myxedema and cancer and the idea of a lack of cell-controlling secretion analogous to thyroid secretion as the chief factor has not, according to our observation, so far at least, been thus emphasized in the theories of the origin of malignant disease.

In the current issue of the *New York Medical Journal*, Dr. Robert Abbe reports two cases of oöphorectomy performed under the suggestion of Beatson's theory, with striking results in the cure of mammary cancer, and mentions several others in which temporary arrest seemed to follow the operation, to a certain extent at least. These and other cases reported, together with the remarkable therapeutic results, open up, as Abbe says, a rather new field of thought upon the subject and justify further experiment and observation.

The secretory theory of cancer in one form or another may probably have a future.

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[1] Intercolonial Medical Journal of Australasia, June 20, p. 260.

IONS IN PHYSIOLOGIC AND OTHER PROCESSES.

The theory of electrolytic dissociation, discussed briefly in a preceding issue, is being applied with good results to various questions in general physiology. Among the first experiments in this field are those of Kahlenberg and True, who succeeded in demonstrating conclusively that the toxic action upon the bean *Lupinus albus* L. of dilute solutions of various salts and acids is due to the ions and not to undissociated molecules. By experimenting with various solutions allowed to act on germinated seeds it soon became clear that H -ions and OH -ions are the carriers of the toxic properties. From the work of these men it was shown that the properties of solutions of electrolytes are due to the ions as well as to undissociated molecules; and in very dilute solutions the action may be dependent wholly on ions.

Loeb has demonstrated that when the gastrocnemius muscle of frog is placed in a 0.7 per cent. NaCl solution it neither loses nor takes up water, as this solution has the same osmotic pressure as the tissue fluids. If, however, small amounts of inorganic acids and alkalies are added to the salt solution the muscle absorbs water and increases in weight, due to the H -ions and HO -ions causing increase in the osmotic pressure of the muscle by inducing hydrolytic splittings in the latter and a corresponding increase in the number of its molecules. When the muscle remains in salt solution for some time molecular changes also occur in its interior associated with the production of acid reaction, secondary molecular changes, and absorption of water. Now, muscular activity is accompanied with the production of acid and the absorption of water, and Loeb is inclined to attribute to the latter factor a large share in the cause of labor hypertrophy. He also emphasizes the fact that vegetable and animal organisms probably are protected against lack of water by adaptation through variation of osmotic pressure to prevailing conditions. Loeb has also shown that the rhythmic contractions of certain muscles are dependent on the presence of certain ions in the surrounding solutions. Different ions have different actions in this respect. Ca -ions and K -ions retard or prevent contraction, whereas Na -ions and a number of anions induce contractions in the presence of a certain number of Ca -ions. It seems as if contractility and loss of contractility depend on the formation of certain definite proteid compounds with Ca -ions and N -ions in different proportions, thus indicating the fundamental importance of chemical composition of living matter in its relations to function. It has furthermore been proved that rhythmic contractions are wholly independent of the nerves connected with the muscles; and this has led to valuable studies of the automatism of the heart with the general result that there is probably no real basis for the prevalent doctrine in regard to the so-called cardiac neuroses.

Richards has demonstrated that the sour taste of acids is dependent on the H -ions in the solutions; and Kahlenberg formulates the general law that the taste of electrolytic solutions is due wholly to the ions in them. Among other results of the study of the rôle of ions in electrolytic solutions may be mentioned those of Kahlenberg and True, and of Paul and Krönig, showing that the bactericidal action of mercurial solutions is dependent on the number of Hg -ions in the fluids, and that the action of various antiseptic solutions are to a large extent ionic in nature.

Enough has been adduced to show the wide influence the theory of ionization is to have in various fields of medicine. Wherever physiologic, pathologic and pharmacologic problems involve the consideration of solutions of inorganic substances, the peculiar actions of the constituent ions of the latter must not be neglected. The study of a number of powerful medicines from this point of view will probably yield interesting results.

THE UNSOLVED PROBLEMS OF TUBERCULOSIS.

The echoes of the recent British Congress on Tuberculosis are likely to be heard for some time and the one pre-eminent question raised by Koch's address is not likely to be downed until some authoritative dictum based on conclusive research has been given out. It may be that as a profession we have not taken exactly a scientific position heretofore on this matter; we have accepted inconclusive evidence as final, and have been guided in our opinions more by the sense of expediency than by the careful weighing of facts. If this is true Professor Koch has done the profession a service by raising the issue definitely and clearly. The fact that the majority of authorities are against him is perhaps a fortunate one as it will insure a more thorough study on their part to find data to support the theory so rudely shaken by his authority.

The investigation, however, is not a simple one, not so much so indeed as Professor Koch would seem to believe. It is not a self-evident *a priori* fact that cultures of tubercular lesions in the human subject derived from tubercular meat or milk will still present the characteristics of bovine tuberculosis. If this could be definitely accepted as true the matter would be easy. But the fact is there will be objectors to this acceptance who will require demonstration that the organism does not become modified according to its environment, and with our present lack of knowledge of the biologic qualities of the tubercle bacillus in all its varieties there seems to be a very wide field for investigation and infinite puzzling possibilities. On the other hand, it does not follow that latent human tuberculosis or its almost ubiquitous tuberculous germs may not be aroused into malignant activity by the inoculation of animal tuberculous toxins, or that a possibility of transmission of bovine tuberculosis to man by inoculation proves that it is also transmissible by introduction into the unwounded digestive tract. As one of the foreign delegates is reported to have said in the Congress, the inoculation of man from animals is a different thing from infection by way of the alimentary tract. There may, moreover, be differences in the development and virulence of the tubercle bacillus in different parts of the organism to still further complicate the question. There is still another factor with which to reckon, and that is the universal distribution of the germs of human tuberculosis which renders impure almost every possible experiment in this line. We can not well exclude the possibility of other sources of infection in any alleged case of transmission of animal tuberculosis to mankind.

It would seem that after all the study will be largely confined to the lines already followed by Koch, viz., clinical and postmortem observation. There are, however, many suggestive side-lines, and there is a wide range of possibly useful facts in the enlargement of our at present imperfect knowledge of the natural history of the microbe and its closely allied forms. The study of human resistance and immunity is also promising; it may come finally to the problem of just how much microbic invasion the average organism can stand under different conditions. We may find the danger of bovine tubercle a minimal one, and yet have to decide how far we are justified in neglecting it, and whether it can be differentiated in any case from that due to numerous other sources of infection that are ever about us. In the meantime we will do wisely to keep on the safe side, avoiding, however, the tendencies to exaggeration and unwarrantedly positive statements that have existed in the rather recent past. If Koch has excited a healthy scientific skepticism to stimulate research and replace the self-satisfied assurance of positive knowledge on a subject in regard to which there is yet so much unsettled, his utterances will have done an infinite amount of good.

THE MEDICAL PROFESSION ORGANIZING.

Whatever may be the reason the fact is the medical profession everywhere has become aroused to the necessity of organizing for something more than purely scientific purposes. This is true not only in the United States, but in the Old World also.

Last week[1] we gave an account of the Deutscher Aerztevereinsbund, or the German Practitioners' Association, which showed that this association during the past year had increased its membership in a remarkable manner. The most important fact shown, however, is that the Bund has taken up in an active, business-like manner the problems that are affecting the profession in Germany, problems that have their counterpart with us. It decided to establish a central office, or headquarters, in Berlin, and to place one of its members in charge; and it appropriated a good sum to carry out the objects the Bund has in view. Among these are to promote the ethical and material interests of the profession; to publish an organ; to supply information on questions affecting the profession and its relation to the authorities, to the legislature, and to the professional and lay press, etc.; to assist in the organization of new sub-societies, and to endeavor to have the sums paid physicians by the sick-benefit societies increased; to combat quackery in every possible way and otherwise to look after the material interests of the profession. This action was stimulated no doubt by the movement taken some time ago by those who were dissatisfied with the lukewarm methods of the Aerztevereinsbund, and who organized another society for the express purpose of carrying on the "battle of the clubs," and of solving the problems affecting the welfare of the profession. It is felt that this action on the par of the Bund will make it unnecessary to keep up the new organization that is having the effect of dividing rather than uniting the profession, a result which naturally follows a multiplicity of societies not working in a co-operative way.

The profession in Great Britain has been feeling the necessity of a more compact organization for years and this culminated last week in a report to the British Medical Association by its committee on reorganization which calls for radical changes. From our foreign exchanges we learn of the same earnest effort in nearly every country to unite the profession for mutual good for political influence, as well as for scientific purposes

Coming back home we find that at leas three-fourths of our state societies have appointed committees on organization, and that these committees are actively considering the problem of how to bring every physician in the state into the state society or one of its branches. The important changes made in its organic law by the American Medical Association at its last session, is only one of the events which is leading up to that much to be desired condition—a united profession in the United States.

PRO BONO PUBLICO.

Professor Osler got off a good thing the other day at the British Congress on Tuberculosis. During the opening exercises much was said of a nature flattering to the profession. Dr. Osler remarked that a large delegation had come over from the United States, but that it had not come like some of the "trusts" of which we have heard so much of late, and yet they represented a magnificent "trust." But while the motto of the ordinary trust was "damn the public," their motto was *pro bono publico*.

PROGNOSTIC SIGNIFICANCE OF OPTIC ATROPHY IN TABES DORSALIS.

It is a well-recognized clinical fact that the development of optic atrophy in the course of locomotor ataxia is generally attended with an arrest of the disease; so that this occurrence is considered of relatively favorable prognostic significance. No satisfactory explanation has hitherto been given for this strange coincidence, but it is suggested by Dr. E. F. Cyriax,[1] that it may be found in the progressively increasing reliance that the tabetic patient, in consequence of his failing vision, is compelled to place for all of his movements upon his muscular sense, ordinary sensibility, sense of localization and co-ordination; and in re-educating these and in trying to restore the impairments he is actively and constantly engaged. The same reason is aimed at therapeutically by co-ordinate gymnastic and regulated exercises.

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[1] Jour. A. M. A., August 3, p. 338.

SUCH IS FAME.

According to the newspaper reports, the president of the New York City Department of Health first heard of Professor Koch and possibly also of the tubercle bacillus when a reporter called upon him to interview him on the sensation of the day. "Who is this man Koch?" was the official's inquiry, and when informed, he said: "Well, I don't know anything about him," and then turned to weightier matters. It is probable, as the newspaper says, that he does not think Professor Koch is half as great a man as he is. With some New York City officeholders the vision is limited to the Tammany jurisdiction and nothing outside of that is worth knowing. The official in this case, however, is, as many of us can testify, not a bad type of a too large class of individuals who get into places in our large cities through political machination and pull. It is a public disgrace when they occupy positions such as the presidency of the Department of Health of New York City, which should be filled by qualified men, and have such an opportunity to show their ignorance.

DIPHTHERIA BACILLI IN THE THROATS OF HEALTHY CHILDREN.

Attention has repeatedly been called to the fact that diphtheria bacilli may persist for long periods of time in the throats of those who have had an attack of diphtheria, and also that they may be found in the throats of those apparently healthy who are compelled to associate more or less intimately with such patients. In addition to these possible sources of infection, Drs. R. T. Hewlett and H. M. Murray[2] call attention to another that is even more insidious and more dangerous, because not suspected, namely, the throats of children suffering from other diseases than diphtheria. It was found that of 385 children under the age of 14 years admitted during the year 1900 to the Royal Victoria Hospital for Children, in London, for operation or some illness other than diphtheria, bacilli of diphtheria were isolated on culture from the throat in 58, or 15 per cent.; and pseudo-diphtheria bacilli in 92, or 24 per cent. Among patients 2 years old and upward, the diphtheria bacilli were present in the throat in less than 13 per cent. and the pseudo-diphtheria bacilli in nearly 28 per cent., while among those under 2 years of age diphtheria bacilli were present in 21 per cent. and pseudo-diphtheria bacilli in 14.5 per cent. In only seven of the entire number of cases was there any clinical evidence in favor of diphtheria, and in three of these neither diphtheria bacilli nor pseudo-diphtheria bacilli were found on the first examination. These observations show the importance of keeping the buccal cavity clean in children, and they may also serve to explain the mode of infection in not a few cases of obscure origin.

UNDILUTED MILK AS A FOOD FOR INFANTS.

Notwithstanding tireless research and wonderful ingenuity a perfect substitute to replace mother's milk as an article of food for the nourishment of infants yet remains to be discovered. This is greatly to be regretted, as the occasions are not rare on which mother's milk is not available or it is desirable or even necessary to have recourse to such a substitute. The fact is that there is yet not a little to learn concerning the assimilative processes in children, and knowledge, particularly of a practical character, concerning food is not so extensive or so precise as it might be. As K. Oppenheimer[1] points out in a recent communication, an article of food for the infant, to serve as a perfect substitute for mother's milk, should be as useful as the latter in the nourishment both of healthy children and of those suffering from gastro-intestinal catarrh. These requirements, however, are not met by any of the large number of artificial foods that have been devised. For the purpose of establishing the usefulness of undiluted cow's milk as judged by this standard, Oppenheimer made comparative observations in normal healthy children, in infants suffering from gastro-intestinal derangement and in atrophic children. In almost all of the 11 cases of the first group the bodily weight exhibited a steady and uniform increase; while of 36 cases of the second group only 6 failed to do well; and of 12 cases exhibiting marked atrophy 8 failed to do well. All of the foregoing cases were under observation for periods of more than four weeks. Of 33 additional cases under observation for a shorter period than four weeks 20 thrived and 13 did not.

CRIMINAL ADVERTISEMENTS.

A daily newspaper which is often sensible in its editorial comments on medical subjects, replies to the criticisms on certain of its advertisements made by a physician, that it assumes no responsibility for the reliability of their representations. If they interfere with the practice of physicians, as it assumes is the case, the latter can not be considered impartial censors. It therefore rejects the suggestion of scrutiny and revision of its advertising columns as made by its correspondent as inadmissible. A rapid inspection of the advertisements in the same issue reveals, among other scattering more or less objectionable drug "ads.," a special corner headed "Medical" containing four advertisements. One of these is an alleged gonorrhea cure, and ends with the significant sentence, "Rubber goods carried." The three others are all of the "ladies' safe remedy" class and if they do not openly profess an evil purpose are open to hardly any other construction. If the remedies are harmless and will not accomplish the results covertly claimed for them, then they are frauds and humbugs of the most villainous kind. On the other hand, if they are efficacious in the manner intended, then their sale and use is criminal and the newspaper that admits such advertisements is a participant in the crime. The editor can take which ever horn of the dilemma he chooses; in advertising such remedies he is either selling his space to humbug people or is allowing the space to be used for criminal purposes. He can not plead ignorance. When certain pills are advertised as "monthly regulator; safe and sure; never fails;" and when the advertiser says, "send for woman's safeguard," there is no doubt as to what is meant. The editorial apology is pitifully weak, not to call it anything worse. "Money talks" altogether too much with the advertising department of the daily press, and morality and even common decency must take a second place.

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[1] Lancet, June 29, 1901, p. 1861.

[2] Brit. Med. Jour., June 15, 1901, p. 1474.

[1] Archiv f. Kinderheilkunde, 31 B., v u. vi, H., p. 321.

Medical News.

CALIFORNIA.

Sanatorium Burned.—The Sanatorium at Byron Springs was destroyed by fire, July 25. The loss was total.

State Board of Medical Examiners.—The following members of the Medical Society of California comprise the regular board of examiners: Drs. F. Dudley Tait, San Francisco; David Powell, Marysville; Daniel E. Osborne, St. Helena; Cephas L. Bard, Ventura, and Charles C. Wadsworth, San Francisco.

San Francisco's Deaths.—The report of the statistician of the health department for the fiscal year which closed June 30, shows 9687 deaths during the year, an increase of 751 over 1899-1900. Of this number, 2762 deaths were of soldiers and non-residents. The net mortality among residents was therefore 6925. Tuberculosis caused 1100 deaths; cancer, 187; diphtheria, 93; typhoid fever, 70; heart disease, 524, and suicide, 125.

DISTRICT OF COLUMBIA.

Dr. R. Henderson Graham, Washington, will sail for Europe on the *Wilhelm der Grosse*, August 13.

Extension to Insane Hospital.—Bids for the construction of the extension to the Government Hospital for the Insane, for which $1,000,000 was appropriated by the last Congress, closed August 2.

New First-aid Pouch.—Major J. Van R. Hoff has designed a first-aid package, to be carried by the soldier in the field, especially in time of war, where a great many soldiers mislay, lose or throw away the valuable packages. The package consists of a pouch fitted with a flap, the whole made of the same webbing as the Mills cartridge belt, to which it is attached, and from which it is suspended by means of two small wire hooks. The pouch is detachable, and the flap is secured by means of fastenings such as are in common use on the wrists of gloves. The board of ordinance and fortifications has allotted $500 for the purchase of probably 2000 of these pouches, which will be issued to the army for practical trial.

FLORIDA.

Dr. Louis De M. Blocker, for ten years physician and surgeon to the Florida Hospital for the Insane, Chattahoochee, has resigned, and after post-graduate studies expects to resume private practice.

Dr. William D. McNamar, Jacksonville, has been appointed medical inspector by the Jacksonville Relief Association. After the discontinuance of the emergency hospital it was found that there still remained many worthy fire-sufferers who needed medical care, and the office of medical inspector was created to look after these patients.

Transfer of Quarantine Stations.—The State Board of Health has entered into an agreement with the Treasury Department for the transfer to the U. S. Marine-Hospital authorities of all the state's quarantine stations, that at Mullet Key to be purchased on an appraised valuation and the others to be leased for a nominal rental with privilege of purchase. The stations will continue to be operated by the force now employed. Payment for the Pensacola quarantine plant, under the act passed by the legislature at its recent session, will, of course, depend on the purchase of the same by the Treasury Department.

GEORGIA.

Dr. Dunbar Roy, Atlanta, who has been ill with appendicitis, is now convalescing from the operation.

The Hospital for Incurables, Atlanta, is embarrassed financially so that in spite of the fact that there are 82 applicants for admission to the institution, it can accommodate only 10. An effort is being made to raise a maintenance fund by popular subscription.

The Presbyterian Hospital, Atlanta, was opened to the public last month. It has an initial capacity of 25 to 30 beds. Its medical staff consists of Dr. Marion McH. Hull, chairman, and Drs. Stephen T. Barnett, Cyrus W. Strickler, James N. Ellis, Edward C. Davis, Miller B. Hutchins, Michael Hoke, John L. McDaniel, James McF. Gaston, Jr., Arthur G. Hobbs, James M. Crawford, and Walter B. Emery.

ILLINOIS.

Dr. Carl G. Muehlmann, Pekin, has been appointed physician of Pekin Township, succeeding Dr. William Niergarth.

Peoria's new Isolation Hospital is completed and was inspected by the mayor and the aldermanic committee, July 27. The building is large, roomy and airy, and has wards for men and women.

Dr. Harry R. Lemen, Upper Alton, who served as a medical officer in the war with Spain, and thereafter in the Philippine Islands, has been commissioned captain and assistant surgeon of volunteers.

Barnes Medical College.—At a recent meeting of the Illinois State Board of Health, the Barnes Medical College of St. Louis was declared a medical institution not in good standing with the Illinois State Board of Health.

Anthrax is abroad in Northern Illinois. A farmer at Lake Zurich is said to have died from the disease, and farmers at Lake Zurich, Palatine and Long Grove are ill, but will recover. An epidemic among the cattle is threatened.

St. Louis physicians who practice in East St. Louis must hereafter possess an Illinois license. The local board of health has issued an order to this effect on account of the alleged failure of certain St. Louis physicians to comply with the law regarding the notification of the local health board of communicable diseases.

Chicago.

The Graduate Nurses' Association of Illinois, whose object is to obtain state recognition for trained nurses, was organized August 3.

Dr. Joseph E. Raycroft, acting athletic director of the University of Chicago, has been appointed past assistant surgeon with the rank of lieutenant, and assigned to the Illinois naval militia.

The volunteer medical inspectors have done such efficient service in improving sanitary conditions and reducing infant mortality during the recent heated term that the Department of Health has issued a call for fifty more physicians and nurses.

Epizootic.—Bacterial investigations in the laboratory of the secretions from the throats of horses affected by the prevailing epizootic show some similarity of the germ to that of influenza, but with such differences as to allay the apprehension that the disease is communicable to mankind, as was at one time feared.

Betiero Not Registered.—The secretary of the State Board of Health informs us under date of August 3 that the news item stating that Betiero, the hypnotist, who claimed to be a physician, was duly registered is incorrect, that the individual does not hold a certificate from the Board and that the Chicago Department of Health has been authoritatively so informed.

Dr. George W. Webster, because he contravened the inalienable rights of physicians of Ludington, Mich., to treat emergency cases gratuitously, has had a warrant sworn out against him for practicing medicine in Michigan without a license. Dr. Webster's offense consisted in removing a fishhook from a little girl's hand, and for this service he made no charge. The warrant, however, was not served.

The continuous session which is in force at Rush Medical College has not been a failure, as was suggested in the lay press. Dr. John M. Dodson, dean of students at this institution, states that the quarterly system has been found especially adaptable to the medical school, possessing great advantages. and is deemed by the faculty and trustees of the college to be a great advance in medical education. The example of Rush Medical College in instituting such a plan has already been followed by two or three other medical institutions and promises to be followed by others.

Public Health Conditions.—A decrease of 91 deaths, during the week ended August 3, from the total of the previous week confirms the anticipation expressed in the Health Department bulletin of that week that the disastrous effects of the unprecedented hot weather had then culminated. So, too, as to the excessive typhoid-fever mortality, due to the continuous water pollution between June 24 and July 3. Although there were 20 typhoid deaths reported last week, as against 13 during the previous week, the numbers reported toward the close of the week indicate that the outbreak from that pollution is substantially at an end—the daily deaths having been 6, 6, 3, 2, 1, 1, 1. It is probable that there will be another increase within three or four weeks from the pollution of last Monday, but it is not likely to be so severe. In all other respects the public health conditions are entirely satisfactory; there were fewer cases of the contagious diseases reported last week than in any other since the contagious-diseases division was established. But one case of smallpox was discovered, three were discharged and there are only six remaining in the Isolation Hospital. The publicity given by the daily press to the efforts of the department to improve the quality of the milk supply has already effected a great improvement in quality. Formalin adulteration has almost entirely ceased and the percentage of samples found below grade has greatly diminished within the past two weeks.

IOWA.

Dr. Smith A. Spillman, Ottumwa, has been made a member of the pension examining board, vice Dr. Benjamin F. Hyatt, deceased.

Smallpox.—The Health Department of Des Moines received reports of 19 cases of smallpox for the last week in July. There are 8 cases in the isolation hospital.

Dubuque physicians have been notified by the health officer that they must report communicable diseases to the Health Department within the time prescribed by law. The city recorder stated that two recent cases of smallpox had not been reported to him.

Faculty Changes.—The Sioux City College of Medicine announces the following changes in the personnel of the faculty: Dr. J. H. Robbins becomes professor of pathology, histology and bacteriology, vice Dr. Hal L. Huvetson; Dr. John A. Dales succeeds Dr. Jastram as professor of anatomy and Dr. Willis W. Dean takes the chair of physiology formerly held by Dr. Dales.

MARYLAND.

Dr. F. C. Davis, Baltimore, sailed on July 25 for Germany.

General Vaccination.—The Health Commissioner of Baltimore has determined to enforce strictly the law requiring general vaccination.

Dr. Florence R. Sabin has been appointed to the fellowship in the Medical School of Johns Hopkins University, provided by the Baltimore Association for the Promotion of the University Education of Women.

Consumptives in Street Cars.—Objection has been made to persons riding to the Consumptive Hospital on the street cars in Baltimore, on the ground that the disease is liable to be thus communicated to the well.

Hospitals and Delirium Tremens.—Some comment has been occasioned by the refusal of four hospitals and the city almshouse to admit a man with delirium tremens, who afterwards died in the city jail. Some of these institutions are recipients of city appropriations and the supervisors of city charities are making an investigation.

Smallpox.—Dr. John S. Fulton, secretary of the State Board of Health, was summoned to Washington County on July 22 by Dr. O. H. W. Ragan, Hagerstown, local health officer, and found a family of four near the Pennsylvania line, suffering with smallpox. None of them had ever been vaccinated. Dr. Fulton quarantined the house. These are the only cases of smallpox at present in Maryland.

MICHIGAN.

Dr. George Dock, Ann Arbor, is in Europe.

Dr. William E. Jones, a physio-medical physician and health officer of Hinchman, is ill with smallpox.

Dr. Robert T. Tapert, Detroit, has been appointed assistant surgeon of the police department and assigned to duty at Belle Isle.

New Disease in Michigan.—At the Michigan Asylum for the Insane several cases of contagious disease have occurred which it is said is not smallpox, chicken-pox or varioloid and which the physicians hope to classify. The ultimate result will probably be smallpox, as has been the case in so many other epidemics of pseudo-variola during the past two years.

MISSOURI.

Smallpox in Kansas City.—Eight new cases of smallpox were discovered by the Board of Health, July 25, and since that time the average has been about one a day. The isolation hospital on that date had eighteen patients.

Detention Hospital for Insane.—Dr. George O. Coffin, city physician of Kansas City, has requested the city council to appropriate $5000 for the erection of a detention hospital for the insane. At present the only accommodation for insane individuals pending their commitment to asylums, is the City Hospital.

Milo B. Ward Memorial.—At a special meeting of the Kansas City Academy of Medicine, held July 29, the following resolutions regarding the late Dr. Milo B. Ward were adopted: WHEREAS, Almighty God, in his infinite wisdom, has seen fit to call from his earthly field of usefulness to that haven of rest above, Dr. Milo Buel Ward, our associate and Fellow of this Academy, therefore be it *Resolved,* That Kansas City Academy of Medicine, appreciating his sterling worth, ability and many virtues, feels keenly the great loss it has sustained in his untimely death. He was our friend as well as our colleague, and his labors were for us and for the profession of medicine in general. His death is a loss, not only to his family and to his circle of friends, but to the profession of Kansas City, of this state and the nation. *Resolved,* That we extend to the stricken family our sincere sympathy in this our common bereavement. And be it further *Resolved,* That a copy of these resolutions be spread upon the minutes of this association, a copy be sent to the family and one to each of the daily papers and medical journals.

MONTANA.

St. Peter's Hospital, Helena, which was damaged by fire in May last, has received $15,000 from an anonymous source, for its rebuilding.

Smallpox is prevalent among the Kootenai Indians on the Flathead reservation, near Dayton. Five deaths have occurred in the last month, and there are now 35 cases of the disease.

Cree Indians infected with smallpox are being held in quarantine—one band near Kalispell, the other near Missoula. They belong in Canada and came across the border after the Riel rebellion.

Four Butte physicians who neglected to comply with the law requiring filing of birth certificates and notification of communicable diseases were arrested, plead guilty, were fined and paid their fines.

NEBRASKA.

Dr. Andrew B. Somers, Omaha, has been appointed secretary of the State Board of Health, succeeding Dr. Ole Grothan, St. Paul.

Osteopaths Licensed.—Thus far, 35 osteopaths have been licensed in Nebraska. At the last meeting of the State Board of Health 19 regular physicians and 17 osteopaths were licensed.

Returned to Ord.—Dr. Charles E. Coffin, formerly superintendent of Nebraska State Insane Asylum, and Dr. Minerva H. Newbecker, late assistant physician of the State Insane Asylum, have relocated at Ord.

NEW YORK.

Dr. Lemon Thomson has been elected health officer of Glens Falls, vice Dr. George H. McMurray, deceased.

Smallpox mortality in the state during June reached 74, the highest number for any month in the state's history as verified by the records of the Health Board.

Employees at State Hospitals.—Governor Odell intends to institute a policy of retrenchment as regards the state hospitals. He found in his recent tour of inspection that at Kings Park Hospital there were 500 employes to care for 2800 inmates, and a similar proportion at other institutions.

The Weather in July.—According to the United States Weather Bureau with its temperature records of thirty-one years, July, 1887, had an average temperature of 77 degrees. The highest record for July, 1901, was 99 degrees on the second day. The lowest was 64 degrees early in the morning of the 27th. The mean maximum temperature was 85 degrees for the month and the mean minimum was 71 degrees. The mean temperature for the month was 78, or 1 degree higher than that of 1887. The local forecaster up to within a few days of the closing expected the record to be at least 79, but was disappointed to the extent of one degree.

Buffalo.

Dr. Alvin A. Hubbell, for several years associate editor of the *Buffalo Medical Journal,* has resigned from the editorial staff.

Dr. Roswell Park's excellent medical organization at the Pan-American Exposition has been warmly complimented by visiting physicians and sanitarians, who speak in the highest terms of the conduct of the hospital.

The medical department building of the University of Buffalo is to be enlarged by an additional story. The new story is to be used for laboratory purposes. The college amphitheater is also to be raised and improved.

New York City.

Brooklyn Beneficiaries.—The will of Mrs. Harriet Bacon Smith, of Brooklyn, provides for bequests of $10,000 to the Eye and Ear Hospital of Brooklyn and $4000 to the Diet Dispensary of Brooklyn.

Dr. John S. Billings has sailed for Europe on the *Teutonic.* His destination is Skibo Castle to see Andrew Carnegie. He takes a letter from the city controller and a contract which requires Mr. Carnegie's signature.

War on the Staten Island Mosquito, having for its purpose the extermination of the malaria-spreading pest, has been begun by Dr. Alvan H. Doty, health officer of the port of New York. Selecting a little hamlet known locally as Concord, Dr. Doty began his experiments. He found a series of ponds filled with stagnant water, above which clouds of mosquitoes swarm every evening. Dr. Doty has an oil tank car and a tank wagon, loaned by the Standard Oil Company, which has also contributed all of the crude petroleum oil to be used in the experiments. The fluid is passed from the wagon through rubber hose to the perforated iron pipes, arranged like a gridiron and suspended from a wooden float. The float is pulled from one side of a pond to the other until the entire surface receives a coating of the oil. After all the ponds have thus been treated samples of the water will be examined for the larvæ, and a second census of the locality afflicted with malaria will be taken to ascertain if there has been any diminution in malaria in this region.

OHIO.

Dr. William H. Knauss, Newark, has been appointed captain and assistant surgeon in the Ohio National Guard and assigned to the Fourth Infantry.

Dr. P. Maxwell Foshay, Cleveland, has been appointed a member of the Board of Trustees of the State Hospital for Epileptics, Gallipolis, vice J. D. Brown, Athens, resigned.

Deaths Due to Heat.—On July 29, what proved to be the culmination of the late hot spell, 50 deaths, the largest number in the history of the city, were reported to the health office of Cincinnati.

Dr. H. C. Rutter, superintendent of the State Hospital for Epileptics, Gallipolis, has resigned, to take effect September 1. His resignation has been accepted by the trustees and a leave of absence granted him for four weeks.

G. A. R. Encampment.—Dr. George C. Ashmun has been placed in charge of the medical arrangements for the Grand Army encampment in Cleveland next month. He will establish headquarters from which medical aid will be furnished as required. He has a corps of 24 physicians to assist him.

Vaccination and Tetanus.—Vaccination has been temporarily suspended in Cleveland on account of tetanus developing in four cases in which the infection appeared to have been received from vaccination sores. The Health Department is now arranging for a preliminary testing of all vaccine that shall hereafter be used. In one of the fatal cases the vaccination was made by a physician on his own sister, and was closely watched.

PENNSYLVANIA.

Compulsory vaccination has been ordered in Lebanon.

Dr. J. L. Forwood, Chester, has been re-appointed a member of the State Quarantine Board.

The White Haven Sanatorium for Consumptives was opened for the reception of patients last week. At present only 20 patients can be accommodated.

TENNESSEE.

Dr. Heber Jones, Memphis, president of the State Board of Medical Examiners, has resigned and has been appointed a member of the State Board of Health.

Dr. Howard A. Ijams, Knoxville, has resigned from the medical department of the National Guard. He was an assistant surgeon and assigned to the Sixth Infantry.

Dr. William A. Duncan, smallpox physician of Chattanooga, has resigned and re-assumed his duties as city physician. Dr. H. P. Larimore has been appointed smallpox physician in his stead.

Changes in Vanderbilt Faculty.—Drs. Richard A. Barr and Lucius E. Burch, *Nashville,* have been appointed adjunct professors of abdominal surgery and gynecology, vice Dr. Richard Douglas, resigned.

CANADA.

Dr. Heiser, the representative of the United States Hospital Service at Quebec, is detaining on an average eight immigrants a week destined for United States points.

A military medical board will shortly convene in the Northwest Territories to consider applications for pensions by those who served in the South African campaign.

Anthrax Vaccine from Chicago.—The Dominion Department of Agriculture has at last overcome the difficulty in obtaining sufficient anthrax vaccine from a vaccine company in Chicago for the use of stock holders in Stormont County, Ontario.

The Health of the Province of Quebec.—The secretary of the board of health has issued a statement which shows the number of cases of smallpox since January 1 last. Thirty-four municipalities have now a clean bill of health. There is a record of 337 cases with one death.

Animal tuberculosis is communicable, according to the expressed opinion of Dr. Laberge, health officer of Montreal, the statements of Dr. Koch to the contrary, notwithstanding; Montreal will still continue to guard against the spread of the disease from animals to human beings.

Toronto's bill of health for July, according to medical health officer Dr. Sheard, is the best in eight years. There are very few cases of contagious diseases, and only three cases of typhoid have occurred. The purity of the drinking water has not been surpassed since 1894. It at present shows only 104 colonies of bacteria to every cubic centimeter.

The mortality statistics for Montreal for the past week were much lower than what they have been for some time. There were only 118 deaths; and the infant mortality has dropped off considerably. There was one death each from diphtheria, scarlet fever, measles and whooping cough; two from typhoid fever; infantile debility, 56; consumption and other chest diseases, 19.

Decision on Site of Hospital.—A judgment re the proposed contagious diseases hospital for Ottawa, which is very lengthy, covering ten pages of foolscap paper, has just been handed out by Judge McTavish. It is the result of an application which sought to restrain the city from erecting a hospital on what is known as the Wurtemburg site. The judgment dismisses the application and establishes the 150-yard limit for that city, and so is of great importance in its bearing on other sites.

Conflict on Smallpox between Military and Civil Surgeons.—The provincial health authorities of Ontario have recently been devoting some time to investigating the origin of several outbreaks of smallpox in the province, notably at Burlington, Nelson and Toronto, and they have succeeded in tracing the infection to a case alleged to have been present at the Niagara Camp in May last, which annually assembles at Niagara-on-the-Lake, Ont. It would appear from the investigations, that the soldier who had the disease while in camp had been, according to the military instructions given out before the assembling of the camp, vaccinated, and the vaccine had taken well, but smallpox had run its course concurrently with it, and the military surgeons had diagnosed the rash as being due to the vaccine, whereas, in fact, it was the genuine smallpox. There are some thirteen cases which the health authorities claim they can directly trace to this one case at Niagara; but the military men deny the source of the infection, and the whole affair has caused some little friction between the provincial health department, the Toronto health department and the surgeons who were in camp at Niagara.

FOREIGN.

The Caduceus.—Under this title a new journal, devoted exclusively to military medicine and surgery, has commenced publication in Paris.

Australian Physician Knighted.—The honor of knighthood has been conferred on Dr. James Graham, mayor of Sydney, during the recent visit of the Duke and Duchess of Cornwall and York.

Dr. J. Roussel, of Geneva, Switzerland, author of numerous works on the transfusion of the blood, and editor of *Médecine Hypodermique*, a journal founded to proclaim the advantages of oil injections, died recently.

New Journal of Gynecology.—At a recent meeting held in London, presided over by Sir John Williams, it was decided to commence a new journal to be called the *British and Colonial Journal of Obstetrics and Gynecology*.

The French Congress of Surgery will meet this year at Paris, October 21. Lucas-Championnière will preside. Février will deliver the principal address on the "Surgery of the Spleen," and Broca on "Tubercular Adenitis."

The Virchow Building.—The Berlin Medical Society has decided to erect a permanent building in honor of the eightieth birthday of its honorary president, Virchow. The site for the new "Virchow Haus" is to be donated by the city. Nearly $50,000 have already been subscribed to the building fund.

Journal for Chemical Physiology and Pathology.—Professor F. Hofmeister, of Strassburg, has founded a new periodical for biochemistry, with the title *Beitraege zur Chemischen Physiologie u. Pathologie.* It is to be published by F. Vieweg & Son, of Braunschweig. Twelve numbers will form a volume, to cost 15 marks.

Vacant Chair in Australia.—The chair of pathologic anatomy at Sydney is seeking an incumbent. The salary is about $750 with a pension of $300 after twenty years of service. Traveling expenses out will be paid. The candidates must not be more than 40 years of age. Applications are received at the London General Agency for New South Wales, 9 Victoria Street, London, S. W.

Student Riot in Naples.—The students considered Professor d'Antona too severe in the recent examinations in the medical course at Naples. They commenced to upbraid him riotously, and when expelled from the hall, waylaid and injured him. The report in the *Gaz. Med. de Paris* states that he was only saved by the efforts of the police from being lynched. The professor is said to have caused the death of a patient by a mistake, not long ago, and the students made this a pretext for their rebellion.

Married.

Richard S. Pattillo, M.D., to Miss Anna M. Doyle, both of Chicago, August 6.

Albert E. Mowry, M.D., Chicago, to Miss Ruth P. Lehman, of Forsyth, Ill., July 29.

W. H. Eargle, M.D., Fleming, Texas, to Miss Effie Anderson, of Comance, Texas, July 21.

Julius P. Sedgwick, M.D., Eveleth, Minn., to Miss Emily Weeks, of Lincoln, Neb., August 2.

Deaths and Obituaries.

Milo Buell Ward, A.M., M.D., College of Physicians and Surgeons, Keokuk, Ia., 1879, died at his home in Kansas City, Mo., July 28, aged 53, after an illness of thirty-two weeks. His health was broken by an attack of dysentery, which he contracted while in camp at Chickamauga, Tenn., during the Spanish-American war. At the outbreak of that war he was appointed chief surgeon of the Second Brigade, U. S. V., and at the end of the war was a member of the board inspecting the camps of volunteers. He was professor of clinical gynecology in the University Medical College, Kansas City; member of the Judicial Council and ex-chairman of the Section on the Diseases of Women of the American Medical Association; ex-Fellow of the American Association of Obstetricians and Gynecologists; ex-President of the Western Surgical and Gynecological Association, and Fellow of the Kansas City Academy of Medicine. At a special meeting of this Academy, called for that purpose, resolutions expressing their sorrow at their loss and that of the medical profession in his death and paying tribute to his memory, were adopted.

Henry Buckingham Horlbeck, M.D., Medical College of the State of South Carolina, Charleston, 1859, died at his home in Charleston, August 2, aged 62. He was appointed surgeon in the First South Carolina Infantry at the beginning of the civil war and served until the end of the war. For many years he was health officer of the Charleston port and did much toward perfecting the quarantine service for the protection of the southern ports against yellow fever. He was vice-president of the American Public Health Association, 1890-91, and was a member of the American Medical Association.

William Argyle Watson, M.D., University of Pennsylvania, Philadelphia, 1851, died from Bright's disease, at his home in Newport, R. I., July 27, aged 74. At the beginning of the civil war he entered the navy as a surgeon and performed valuable service with the gulf squadron. After retiring from the navy at the close of the war, he practiced in New York until two years ago, when he retired to his country home at Newport. He belonged to many social and patriotic organizations.

Leonidas Russell, M.D., Jefferson Medical College, Philadelphia, 1855, at his home in Washington, July 26, aged 66. He was practicing in Owensboro, Ky., when the civil war began. He was appointed assistant surgeon in the Second Kentucky Volunteers and served until the battle of Shiloh, where he was severely wounded and so incapacitated for further service that he resigned in 1862. He afterward served in the Tennessee legislature.

Abel C. Roberts, M.D., University of Michigan, Ann Arbor, 1853, physician and editor, died at his home in Fort Madison, Ia., July 28, from a cerebral hemorrhage, aged 71. He was appointed as a surgeon at the outbreak of the civil war, and in 1863 was commissioned major and surgeon of the Twenty-first Missouri Infantry, serving in that capacity until mustered out in 1866. He was editor of the Fort Madison *Democrat*, which paper he founded July 4, 1869.

John S. Hurd, M.D., University of Pennsylvania, Philadelphia, 1855, died while visiting at Hampton, Ia., July 23, from a heat stroke, aged 70. He graduated from Bowdoin College in 1851, and after studying medicine went to Franklin County, Iowa, where he has practiced since that time, with the exception of the three years that he served in the Thirty-second Iowa Infantry during the civil war. His home was at Chapin.

John H. Warren, M.D., Rush Medical College, Chicago, 1849, died at Palmyra, Wis., August 1, after a long illness, aged 76. He was elected to the State Senate of Wisconsin in 1857 and served for five years; he was appointed collector of internal revenue by President Lincoln, in which capacity he served for seven years. He lived in Janesville for the past thirty years.

Stephen Foss, M.D., Harvard University Medical School, 1859, died at his home in Brooklyn, August 1, after a long illness, aged 76. He was a graduate of Bowdoin College and was an excellent Greek scholar. When the civil war began he was practicing medicine in Cleveland, Ohio, and he enlisted as an assistant surgeon.

Charles C. Yemans, M.D., Detroit Medical College, 1872, died at his home in Detroit, Mich., July 21, as the result of the heat. He was a lieutenant in the 24th Michigan Infantry during the civil war, and was president of the Wayne County Medical Society for two years.

Charles St. John, M.D., acting assistant surgeon, U. S. army, was shot and killed in a skirmish with the insurgents near Mantangas, P. I., May 22, while voluntarily accompanying a detachment from the 26th U. S. Infantry, sent out to surprise an insurgent outpost. He was buried at Daet, P. I.

Charles W. Hayt, M.D., College of Physicians and Surgeons, New York, 1889, was missed from a steamer on Lake Erie between Buffalo and Cleveland on the night of July 23-24. He was a practitioner of Corning, N. Y., and a Fellow of the Academy of Medicine of that city. At one time he resided in New York City.

Edwin R. Bishop, M.D., Trinity Medical College, Toronto, 1888, died from pulmonary tuberculosis, at Brantford, Ontario, July 24, aged 44. He was on the staff of the Willard (N. Y.) State Hospital for eight years, and up to a few months ago practiced in Geneva, N. Y.

R. F. Lewis, M.D., University of New York, died after a long illness, at his home, Lumberton, N. C., July 14, aged 64. He received his academic training at the University of North Carolina, graduating in 1858, and served as a surgeon during the civil war.

P. Calvin Mansch, M.D., Bellevue Hospital Medical College, New York, 1889, died of phthisis at his home, Collegeville, Pa., July 30. Since 1894 he has been director of the biologic and chemical departments at Ursinus College.

William D. Maddux, M.D., New York University, 1842, which was the first class graduated at that school, died at his home in Monticello, Ga., July 22, aged 87. He was a charter member of the Georgia State Medical Association.

James P. McCombs, M.D., New York University, 1860, died at his home in Charlotte, N. C., July 23, aged 65, from a stroke of paralysis. He served through the civil war, since which time he has practiced in Charlotte.

George W. West, M.D., Richmond Medical College, Richmond, Va., died at his home in Washington, July 24, as the result of a heat stroke, aged 58. He was a member of the American Medical Association.

John R. Crosswhite, M.D., Missouri Medical College, St. Louis, 1877, died from heat prostration, at his home in St. Louis, July 24, aged 48. He was demonstrator of anatomy at the Missouri Medical College.

Oren C. Wright, M.D., Western Pennsylvania Medical College, Pittsburg, Pa., 1894, died at Luray, Va., where he had gone for his health, July 26, aged 55. He formerly practiced in Pittsburg.

Loreston J. King, M.D., Columbus Medical College, Columbus, Ohio, 1880, died at his home, Santa Rosa, Cal., July 22, after a long illness, aged 52. He was a native of Jamestown, N. Y.

Cort F. Askern, M.D., Kentucky School of Medicine, Louisville, 1883, died at Terra Haute, Ind., August 1, as the result of a fall from a second story window. He was 60 years of age.

Katherine Miller, M.D., Northwestern University Woman's Medical School, Chicago, 1882, died at a hospital in Chicago, August 1. She was practicing at Lincoln, Ill.

Joshua Miller, M.D., University of Michigan, Ann Arbor, 1872, medical superintendent of the Arizona State Insane Asylum, died during July, at Flagstaff, Arizona, aged 55.

Gilbert E. Palen, M.D., Albany Medical College, 1855, died at his summer home in Ocean Grove, Pa., July 28, from pneumonia, aged 69. He practiced in Philadelphia.

William Singleton, M.D., Kentucky School of Medicine, Louisville, 1851, died at his home in Covington, Ky., July 23, after six weeks' illness, aged 73.

Edgar H. Heflin, M.D., University of Iowa, Iowa City, 1883, formerly of Minneapolis, died in the Stillwater prison, Minn., July 26.

Thomas J. Clancy, M.D., University of Arkansas, Little Rock, 1897, died suddenly at his home in Scales Mound, Ill., July 29.

John H. Welch, M.D., Barnes Medical College, St. Louis, 1898, died at his home in Beecher City, Ill., July 23, aged 30.

Max G. Kellner, M.D., Rush Medical College, Chicago, 1882, died at his home in Chicago, August 2, aged 50.

Valentine Walsh, M.D., University of Dublin, 1871, died in New York at the Presbyterian Hospital, July 29.

Societies.

COMING MEETINGS.

American Association of Obstetricians and Gynecologists, Cleveland, Ohio, Sept. 10, 1901.

American Academy of Railway Surgeons, Chicago, Sept. 12-13, 1901.

Mississippi Valley Medical Association, Put-in-Bay, Sept. 12-14, 1901.

American Public Health Association, Buffalo, Sept. 16-20, 1901.

Medical Society of the Missouri Valley, St. Joseph, Mo., Sept. 19, 1901.

Medical Society of the State of Pennsylvania, Philadelphia, Sept. 24-26, 1901.

American Electro-Therapeutic Association, Buffalo, Sept. 24-26, 1901.

The American Electro-Therapeutic Association will hold its eleventh annual convention in Buffalo, September 24, 25 and 26. Dr. George E. Bill, Harrisburg, Pa., is secretary.

Southwestern Minnesota Medical Society.—This Society met at Adrian, Minn., July 27, and elected the following officers: President, Dr. William J. Taylor, Pipestone; vice-president, Dr. Emil King, Fulda; secretary and treasurer, Dr. Herbert D. Jenckes, Pipestone.

The American Public Health Association will hold its twenty-ninth annual meeting in Buffalo, September 16, 17, 18, 19 and 20, at the armory of the Seventy-fourth Regiment. The headquarters of the Association will be the Hotel Niagara. Special rates will be offered on all railroads.

Franklin County (Pa.) Medical Society.—This Society met at Chambersburg, July 16, and the following officers were elected: Dr. P. Brough Montgomery, Chambersburg, president; Dr. Oliver P. Stoey, Roxbury, and Dr. J. W. Croft, Waynesboro, vice-presidents; Dr. John J. Coffman, Scotland, recording secretary; Dr. Henry C. Devilbiss, Chambersburg, corresponding secretary, and Dr. David Maclay, Chambersburg, treasurer.

American Association of Obstetricians and Gynecologists.—This Association will hold its fourteenth annual meeting at the Hotel Hollenden, Cleveland, Ohio., Sept. 17, 18 and 19, 1901, under the presidency of Dr. William E. B. Davis, Birmingham, Ala. The committee on arrangements is composed of Drs. M. Rosenwasser and William H. Humiston, Cleveland, either of whom may be addressed concerning rooms or other local information regarding the meeting.

Tri-State Medical Association.—This Association, composed of physicians of Western Maryland, West Virginia and Western Pennsylvania, met at Cumberland, Md., July 25. The following officers were elected for the ensuing year: President, Dr. William F. Barclay, Pittsburg; vice-presidents, Dr. Henry W. Hodgson, Cumberland, Dr. Frank L. Baker, Burlington, W. Va., and Dr. Bruce Lichty, Meyersdale, Pa.; recording secretary, Dr. Percival Lantz. Alaska, W. Va.; corresponding secretary, Dr. Frederick W. Fochtman, Cumberland, and treasurer, Dr. E. B. Claybrook, Cumberland.

Mississippi Valley Medical Association.—The twenty-seventh annual meeting of this Association will be held September 12, 13 and 14, at Put-in-Bay Island, Ohio, and indications point to a very large attendance. The preliminary program contains names of the foremost men in the country and the variety of the papers to be presented has never been equaled at previous meetings. The annual orations will be delivered by Dr. Frank S. Billings, Chicago, in Medicine, and Dr. Reginald Sayre, New York City, in Surgery. The meeting will be presided over by Dr. A. H. Cordier, Kansas City. Unusually attractive railroad rates will be in effect: one fare for the round trip, via Cleveland, and one and a third fare for round trip on the certificate plan, via Toledo, Sandusky and Detroit. The secretary is Dr. Henry E. Tuley, Louisville, Ky.

Correspondence.

Bovine Versus Human Tubercle Bacillus.

Baltimore, Aug. 3, 1901.

To the Editor:—The idea occurred to me, while reading Dr. Koch's address, made before the British Congress on Tuberculosis, London, July 23, 1901, that much light might be thrown on the relations of the bovine tubercle bacillus with the human tubercle bacillus, about which lately there has been so much controversy, if injections of tuberculin prepared from the bovine tubercle bacillus were contrasted with those prepared from the human tubercle bacillus in their effects on persons afflicted with tuberculosis. I can find no evidence in the literature that tuberculin has ever been made from the bovine bacillus and tried on human beings, a very simple and harmless thing to do. Steps have been taken by me to obtain this tuberculin, and I desire you to publish this as a preliminary announcement to some subsequent work on this subject.

Very truly yours,
CLEMENT A. PENROSE, M.D.

A New Operative Method for Exposing the Seminal Vesicles and Prostate for Extirpation.

TOLEDO, OHIO, August 2, 1901.

To the Editor:—Dr. Fuller, in the issue of THE JOURNAL, July 6, in replying to my letter failed to notice that my contention was with him, and not Zuckerkandl. I know nothing about a Zuckerkandl operation upon the prostate. I have been contesting the claims of Dr. Fuller, trusting that if I showed that my claims and those that he makes were alike, that he would accept his own construction that there is a real difference between the claims of Zuckerkandl and the claims which I made and published in the *Medical Record*, August 6, 1892. My charge is that Dr. Fuller has changed the position of my patient from the dorsal to the ventral decubitus, after the suggestion of Von Dittel and Kraske, and, in an unimportant way, altered the U-shaped form of my incision through the skin to two horizontal lines along the pubic rami, which encroach upon each other, but before meeting, a transverse incision is made immediately in front of the sphincters and behind the transversus perinei. This, I claim, is merely altering the appearance of the outside cut, and that the incision through the loose skin over the ischio-rectal region is unimportant to the success of the operation; that the real encroachment upon my operation is in opening into the loose intermuscular connective tissue between the anal sphincters and levator ani internally, and the transversus perinei and the pubic rami externally, and ascending through this space to the prostatic region, so as to perform an operation without the necessity of ligating blood-vessels, in accordance with my statements in the *Medical Record*, in 1892. Those acquainted with the anatomy of the ischio-rectal region will clearly understand that it is impossible to reach the prostate through any other perineal route without great loss of blood. This is because the branches that supply the parts are derived from two distinct sources; namely, the internal pudics and the inferior mesenteric arteries. The internal pudics lie deeply to the outside of the field of operation and send off no branches until the anterior border of the transversus perinei in the perineal space is reached. The hemorrhoidal vessels, from the inferior mesenterics, descend on the rectum and supply the sphincters without giving off anastomotic branches to join the branches from the internal pudics. This makes the ascent to the prostates, in the space above described, possible without the division of any vessels needing a ligature. In Dr. Fuller's criticism of the Zuckerkandl operation, which appeared May 4, he stated that it was "a bloody and tedious operation, with numerous vessels to be ligated in inaccessible positions," and further "that the space afforded by the Zuckerkandl incision was too limited to allow a surgeon to do any accurate work in connection with organs so deeply situated as the seminal vesicles." These were the points which he gave out as being corrected by what he characterized as his "new method" of operating. Now, if Zuckerkandl made an operation which justified this criticism how can Dr. Fuller associate the Zuckerkandl operation with that of my own? My U-shaped incision around the front and sides of the anus can be extended to any depth posteriorly to suit the needs of the operator and the case. I have varied it without thinking that it in any way changed the principles of my original operation. Replying to Dr. Fuller's statement that Dr. Samuel Alexander, of New York, had written to me informing me of the Zuckerkandl operation, I wish to say, that Dr. Alexander never communicated a word to me on the subject; that I wrote to him on two different occasions and lastly wrote a letter to the *Medical Record*, which was published in the issue, December 10, 1898, complaining about his encroachments upon the operation which I had previously described. Dr. Alexander has never replied to this open letter. Respectfully, JOHN S. PYLE, M.D.

Oversupply of Medical Graduates.

BURLINGTON, IOWA, July 29, 1901.

To the Editor:—Your editorial on the subject of "Oversupply of Medical Graduates" (THE JOURNAL, July 27, 1901), coming closely upon the heels of certain invitations to "kindly furnish the undersigned" (in each instance a secretary of a medical faculty) with the names of those I know who expect to study medicine, encourages me to make one reply for all such requests and thus publicly. In the first place, I will say that if I knew any who contemplated the study of medicine I would, because of the oversupply to which you have referred, use all of my powers of dissuasion. Should I succeed in this there would of course be no need to make reply.

But, if I should fail to dissuade, could I honestly comply with the invitation? I take it that the average person who contemplates studying medicine has selected some established practitioner of medicine to act as an adviser and guide; and that he has also made it his business to look up the announcements of medical colleges extensively and in detail. He has therefore the advice he desires and a competent knowledge of the facilities offered at the various schools. Under such circumstances one naturally asks in this age of "graft" what inducements medical colleges have to offer that they should desire to be put in position to solicit business.

To some of us who graduated twenty-five or thirty years ago the teaching methods of to-day present no more revelations than the business methods in medical schools; and we are simply wondering what will come next.

Will the schools devote more time (as in our day) to the teaching of *noblesse oblige* (the spirit of medicine and the sacrifices of its devotees), or will they be sending out commercial travelers to get what can not be gotten by correspondence?

Truly yours, H. B. YOUNG, M.D.

Oversupply of Medical Graduates—A Remedy in Medical Missions.

CINCINNATI, OHIO, July 30, 1901.

To the Editor:—Your editorial[1] on "Oversupply of Medical Graduates," presents statistics which are startling, because they prove that relief from the present oversupply is impossible under present conditions. There is also little prospect that those conditions will be altered so as to reduce the output of the "doctor factories" to any appreciable extent. In fact, we can only expect an increase. While everybody knows that there are four or five times more medical colleges than are necessary, the benefits attached to a professorship in even the poorest of them are such that "few die and none ever resign," while in order to attract the guileless student, and incidentally, his matriculation and other fees, we find the free clinics and hospitals are multiplied, in order that they may be advertised as evidence of "teaching facilities" and "abundant clinical material," etc.

It would be right and proper if the student attended medical college merely for his personal pleasure and information, or to broaden his mind, as he does when he studies the dead languages, higher mathematics, physics, etc., with no intention of using either of these subjects as a life work or to gain his daily bread. But we know that the majority of medical students cherish the expectation and the hope—poor deluded mortals—of making a living for themselves and their families by the practice of medicine. As a matter of fact it might be set down as a rule, that at present no man should deliberately enter on the practice of medicine unless already possessed of sufficient means to live comfortably without depending upon earnings from grateful patients.

If, as stated, there are 115,000 to 125,000 doctors to our population of 75,000,000, then there are 40,000 to 50,000 in excess of what is necessary or desirable, as a ratio of one doctor to one thousand of population is certainly none too small if the doctors are to make their living from their practice. And, if the present excess of physicians is increasing at the rate of three thousand per year, it requires only brief calculation to show that there will be a vast "army of unemployed" in a very few years.

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[1] THE JOURNAL A. M. A., July 27, p. 270.

Now, what is to be done in the matter? The "grinding-out" of graduates will surely continue. 1. Because the average student can not be brought to see and appreciate the situation; he knows only that the study is interesting and attractive and with the enthusiasm of youth, he sees only success before him. Because the selfishness, if not cupidity, of college faculties will seldom permit a college to close or consolidate, so long as sufficient cash can be secured from students to pay expenses. 3. Because state legislative bodies can not be brought to look at proposed medical legislation from the doctors' standpoint, but always regard any restrictive medical legislation as emanating from a "doctors' trust," therefore we can not hope for relief by state legislation and the National Government has no authority to limit or control such matters. "So, there ye are," as Mr. Dooley says.

Nothing remains but to find something for these surplus thousands to do with their valuable technical knowledge, acquired at large expense of time, labor and money. There is a field which could absorb the services of every one of them and many more. It all depends upon the sentiments which actuate the graduate in determining to adopt the profession of medicine as a life work. If he be actuated only by the selfish, mercenary instinct of making a living in a genteel occupation, I have nothing to say to such a one. But if he regards the healing art as intended primarily for the relief of the miseries and sufferings of humanity and that the physician practices best who relieves the largest number of the "ills that flesh is heir to," then I say we can not for many decades have a surplus or oversupply of graduates, for the services of every qualified physician in our land are needed badly, right now, in fields where clinical material is more than ample; where opportunity for operative work is abundant; where vast unexplored fields of tropical diseases and new therapeutical remedies await the scientific labors of the modern doctor to be brought to light; where a man who desires to work has the opportunity; and where he can feel that in performing his work he is acting up to that high standard which places the medical profession side by side with the most earnest work of the church.

I refer to the work of medical missions in such lands as Africa, South America, China, India, Syria, Persia, Siam, the Philippines, etc. From all these lands comes an urgent appeal for medical missionaries. The ignorance, superstition and malpractice displayed by native physicians are appalling, and the number of patients, medical, surgical and ophthalmological, who crowd the mission stations for relief, is simply tremendous. Their entire absence of knowledge of even the rudiments of anatomy, physiology, pathology, antisepsis, and of any surgical procedures or modern therapeutic remedies, makes the native doctor a positive danger to those whom he attends and opens up a vast field for success for a modern physician of only ordinary ability. Not only this; but the thousands of faithful missionaries in foreign fields need medical protection for themselves and families against the ravages of climatic diseases and the sickness and injuries connected with their exposed life. Very many of these men and women now have to travel hundreds of miles to secure medical assistance.

The practical experience gained by many medical missionaries has been immense. Two such surgeons at one hospital in India, during one year made 1200 operations on the eye, and operated on one hundred malignant tumors. Dr. Kerr, of China, during thirty years, attended 700,000 cases and performed 40,000 operations, including 1300 for calculus, a record second only to that of Sir William Thompson.

Several important commercial ports have been opened to European trade as a result of the splendid services of a medical missionary breaking down opposition and disarming prejudice against foreigners. In 1879, at Tien Tsin, Dr. Mackenzie cured the wife of Viceroy Li Hung Chang, and thereby gained the favor of that powerful official toward western nations, which has done so much to open China. The same results have been secured in many formerly inaccessible places, which space will not permit mention of here.

Dr. Allen, an American medical missionary, was the first protestant foreigner to reside permanently in Korea. The king built him a hospital and later sent him as one of a Korean embassy to the United States Government. The beginning of the modernizing of Japan is to be credited to the medical missionaries more than to any other one thing. In Manchuria, and other points in China; at Beirut in Syria, and at several points in India, large and excellent medical schools, conducted by medical missionaries, have been in operation for a number of years.

I have mentioned these points to show the largeness and the importance of the work which lies ready for men and women who are willing to devote their lives to such fields of labor. It is therefore incorrect to say that there is a surplus or oversupply of medical graduates, if the whole world be considered the field for their usefulness.

In America there is one physician to every 600 of population, while in the foreign lands I have named there is only one to every 2,500,000. The supply of physicians here is therefore four thousand times greater than it is abroad. New York City has more physicians and medical helpers than among eight hundred millions of heathen and Mohammedans. America has twice as many physicians for the population than has Great Britain; yet on the basis of England's supply, India could busily engage 190,000 doctors and China, 260,000. At present Chicago has more physicians than both these two countries combined. Africa also needs more than 100,000 doctors; and Siam, Persia, Syria and Turkey could furnish work for 100,000 more.

Those who are interested in this work will do well to read "The Healing of the Nations," by J. R. Williamson, and "The Medical Mission," by Dr. W. J. Wanless, both of which publications can be obtained from the "Student Volunteer Movement for Foreign Missions," 3 West 29th St., New York City.

Let me conclude by quoting Dr. Livingstone's last words, written as he was dying in the heart of Africa: "All I can add in my solitude is, may Heaven's richest blessings come down on every one, American, English or Turk, who will help to heal this open sore of the world."

Frank W. Hendley, M.D.

Misstatements of the Antivivisectionists Again.

San Francisco, July 8, 1901.

On January 21, 1901, I sent a reply to James M. Brown, president of the American Humane Association, in response to a letter from him challenging me to produce proof of inaccuracy in the references to a number of certain alleged experiments and of garbling of the reports of the same. My reply was published in The Journal of the American Medical Association and the *Philadelphia Medical Journal* of Feb. 23, 1901.

In reply I received a letter from Mr. Brown saying that he expected to spend the month of February in California, and could not give attention to my letter until his return.

Mr. Brown seems to have been detained in California much longer than expected, for up to the present moment—nearly six months—I have received no further reply whatever. Indirectly, however, a certain reply has been published in the form of an anonymous pamphlet entitled "The Reality of Human Vivisection," which is called a "review" of my letter.

Not long since I had the pleasure of attending a lecture to one of his classes in moral science by Rev. Dr. Faunce, the accomplished president of Brown University. Among the virtues which he discussed was "Courage" and he pointed out the moral cowardice of anonymous letters. While such a letter is an instance of private moral cowardice, an anonymous pamphlet such as this is an instance of public moral cowardice. An honorable open foe I at least respect; one who skulks behind anonymous pamphlets I despise. The antivivisectionists seem to delight in such secrecy and anonymous attack.

There are four publications on this subject up to the present moment, to which I shall hereafter refer by number, except the last which I shall call the "review." 1. In senate document No. 78, 55th Congress, 3d Session, the last of a collection of certain antivivisectionist papers is one entitled "Human Vivisection," signed "A. Tracy." I should like to know who this mysterious "A. Tracy" is.

2. There is a pamphlet entitled "Human Vivisection," third edition, printed for the American Humane Association in 1900, which reprints this paper (with the omission of "A. Tracy's" name) and adds to it a long continuation of the misstatements of the first. This is anonymous.

3. There is a small pamphlet entitled "Human Vivisection," published by the Humane Society, Washington, D. C., chiefly a rehash of the misstatements of pamphlet No. 2. This is also without the name of any author.

4. Now comes the last pamphlet, the "review" of my letter. This is not only without the name of any author, but without even that of a publisher. *It is simply dated* "Boston, 1901."

The character of every one of these publications, however, is such that I do not wonder that the author wishes to conceal his identity.

The "review" (No. 4) re-prints Mr. Brown's letter to me and at the end adds: "No sufficient rejoinder to his [my] letter [in reply to Mr. Brown] would be admitted to the columns of these medical periodicals." (The Journal of the American Medical Association and the *Philadelphia Medical Journal*). The duplicity of this sentence is evident. The ordinary reader, for whom it is evidently intended, would understand that a reply had been sent to the editors of these medical journals and that they had declined to print it. This is absolutely untrue. No such communication has ever been received by the editor of either of these journals. The critical reader will see that the sentence just quoted does not definitely state that such a communication has been rejected. But for one critical reader a thousand casual readers will get the impression which the sentence was evidently intended to convey.

It is impossible for me to take up all the misstatements and misrepresentations contained in the 32 pages of this last anonymous "review," nor is it necessary to do so. That I should be honored from such a source by vilification and misrepresentation, I expected, of course, but I did hope at least that there would be an honesty of statement to which no exception could be taken.

The author, however, is a very curious person who does not seem to be limited by the ordinary laws of either fair dealing or truthful statement.

Moreover, he would be a very poor lawyer. Most of the evidence cited by him is derived from published reports by certain medical men. Having, therefore, chosen his witnesses, and put them on the stand, he would not be allowed in any court of law to discredit his own witnesses by selecting part of their testimony as trustworthy and rejecting part as unworthy of credence. And, yet, throughout this "review," while the anonymous author is eager to accept the statements of the various authorities as to what they did, he declines to admit their statements as to their results, or else misstates them, going so far as to assert that the statements of the physicians cited, concerning the recovery of their patients are "utterly valueless."

In my reply to Mr. Brown, I used the following language: "Let me again state clearly the question at issue. *It is not whether the experiments meet with my approval*, but solely whether the reports of them in the pamphlet issued by the American Humane Association are reliable and accurate both as to their sources and substance." At the Hearing before the Senate committee, I distinctly twice over expressed *my utter disapproval* of many of the experiments referred to in the original pamphlet (No. 2). This condemnation is quoted both on page 1 and page 5 of the anonymous "review"; yet, in spite of these two statements and the third in my letter to Mr. Brown, just quoted, the author represents me throughout his "review" as the apologizer and the advocate of such experiments, thus publishing, yet at the same time wilfully ignoring my repeated statements to the contrary.

In my letter to Mr. Brown, in support of my accusation that many of the references in the pamphlet on "Human Vivisection" are "vague and indefinite," I cited fourteen instances of quotations from newspapers, five of which were without date, and I added six other instances of "vague and indefinite" references not to newspapers. I commented upon the unreliability of newspapers as a source of authority in medical matters.

Let us see how the anonymous reviewer attempts to meet this issue. The facts he does not and can not deny. In the first place he claims that I have changed the issue from "the question of "vague and indefinite quotation" to that of vague and indefinite *references*. When I stated at the Senate Hearing (stenographer's report): "Many of them are so vague and indefinite that I could not look them up," it must have been clear to anyone of common sense that I referred to the references to the experiments, and there was no misunderstanding on this point in the letter of Mr. Brown, who asks: "To what other of the references above given did you refer when you informed the Senate Committee that "*many of them were so vague and indefinite that I could not look them up?*" I was challenged by Mr. Brown to adduce examples of "vague and indefinite references," and this challenge I successfully met.

On page 22, the anonymous reviewer says: "Of the fourteen journals referred to, *every one* conveying a statement of fact—save one—had its name and date of publication plainly given." Here it will be observed that a distinction is drawn between references to articles "conveying a statement of fact," and those which do not relate to statements of fact. My indictment against the pamphlet on "Human Vivisection" (No. 2) was and is that many of the references are so "vague and indefinite" that the original sources of alleged quotations can not be consulted, and that some of the reports are "garbled and inaccurate." It may be just as important to determine the accuracy of a reference to an expression of an opinion as to learn the facts upon which the opinion is supposed to be based, and to charge me with an evasion of the issue because I did not restrict myself solely to one particular class of references, but pointed out the vague and indefinite character of all classes of references in the pamphlet, is too absurd to require further comment.

As a matter of fact, as pointed out in my letter to Mr. Brown, there are no less than five citations or reports of experiments in pamphlet No. 2 for which either no reference whatever is given, or the one inserted is wrong or so vague and indefinite that the original can not be consulted.

On page 9, the anonymous reviewer says: "It was pointed out by the president of the American Humane Association that, with one exception, every phase of experimentation specifically mentioned had some reference to a medical authority." It is incredible that the reviewer should not have known the falsity of the statement attributed by him to the president of the American Humane Association, or he may think that in this strangely worded sentence he has constructed some loophole of escape through such avenues as may be afforded by throwing the responsibility for a false statement upon another, or by such equivocal phrases as "every phase of experimentation," "specifically mentioned," "some reference." There are in fact in the pamphlet of the American Humane Association seven instances in which reference to a medical authority for the experiments mentioned is lacking, and in addition the sole authority for an important part of the statements regarding Sanarelli's experiments are the correspondent of a daily newspaper and a speaker at a convention of the American Humane Association.

Let us see how the reviewer tries to meet my demonstration of numerous instances of "garbled and inaccurate" quotations in pamphlet No. 2. Here again the facts can not be denied, but an attempt is made to minimize their importance.

1. "Brevity of quotation is often absolutely necessary" ("review" p. 9). Why, then, as I pointed out in my letter, are whole sentences added, which do not appear at all in the original?

2. Errors are described in the "review" as a "translator's exaggeration" (p. 6), "blunders of a copyist" (p. 6), "errors

of a translator" (p. 7). So, then, it is now conceded that the pamphlet does contain "exaggerations," "blunders," and "errors." It contains not merely "errors of a translator," but deliberate falsification and misrepresentations. When a translator says what the author did *not* say; when the word "collapse" is translated "final collapse" and an oration is made upon the death of patients who did not die; when the American Humane Association in reference to these very cases quotes on the cover of its pamphlet "Is scientific murder a pardonable crime?" in spite of the published fact that the patients referred to did not die; when the translator again and again interpolates words, phrases and sentences which do not exist in the original; when essential phrases and paragraphs are omitted, these I submit are not the mere "errors of a translator" but deliberate misrepresentations. Instances of all of these I furnished Mr. Brown in reply to his challenge.

The pamphlet, moreover, contains, as I have pointed out, false or misleading quotations which could not be attributed to "errors of a translator" as they were from English sources. One can only hope that hereafter the "translators" and "copyists" employed by the antivivisectionists may be more accurate, or rather that the men and women back of these poor employes may be willing not to distort and suppress the truth in order to effect their purpose. It is a safe rule, I find, not to believe any statement of an antivivisectionist until its accuracy is established by reference to the original source from which the alleged statement or quotation is derived.

3. My charge of garbling and inaccuracy of quotation is practically admitted, but the reviewer states (p. 15): "For none of them [the translations] was the American Humane Association responsible in any way whatever." It is now rather late in the day to advance this disclaimer, after the insertion on the inside of the cover of the pamphlet of the sentence: "The facts are indisputable," and in the preface over the signature of the president and secretary of the Association; "In each case, the authority is given." It is a favorite trick of antivivisectionists to attempt to throw off in this way responsibility, when confronted with incontrovertible evidence of false statements, as is illustrated in the controversy between Miss Cobbe and Mr. Horsley.

I shall be curious to see the fourth edition of this pamphlet. For it I now furnish one more instance of false statement, the evidence of which was not in my possession last January. Even Mr. Brown admits that to this "the reference may, perhaps, be called indefinite." I submit that "perhaps" it may, for no book, journal or any other publication was named. The instance I refer to is Jansen's lecture purporting to be quoted on page 26 of pamphlet No. 2. The lecture was published in a well-known journal, the *Centralblatt f. Bakteriologie u. Parasitenkunde*, 1891, Vol. x, p. 40. So gross is the falsification that the reference was "perhaps" wisely omitted. The first phrase of the quotation is as follows: "When I began my experiments with smallpox pus, etc." This is an absolute untruth. What Jansen used was not smallpox pus at all, but sterilized, diluted vaccine lymph, and sterilized blood serum from vaccinated calves, which could do no more harm than injecting so much water. The entire extract is inaccurate as a translation. There can be no question but that the substitution in this alleged quotation of "smallpox pus" for "sterilized vaccine lymph" can not be attributed to the mere "error of a translator," but is a deliberate falsification, and this in a pamphlet introduced with the statement to the reader: "The facts are indisputable"!

Much has been made of my statement that I could only find in the pamphlet references to "two experiments" in America. My reason for this statement was very simple and perfectly evident to any honest-minded reader.

In the pamphlet "Human Vivisection" (No. 2) there are a number of experiments related, the numbered ones beginning with the following on page 4: "1. Vivisection Experiments upon the Insane." Under this title several experiments, all of the same nature and by the same individual, are reported, eight being referred to in all. On page 5, appears "2. Vivisection of Children in Boston," and under this a number of experiments, all by the same person, are referred to. Anybody with common sense would see that when I referred to "two" instances, I did not mean two individual experiments, but using the classification of the pamphlet, I referred to Nos. "1" and "2" on pages 4 and 5. In fact I specifically referred to these pages and mentioned various experiments under each caption.

I presume, however, that it is useless to expect fairness from an ambushed enemy.

The anonymous "reviewer's" suggestion that as I was President of the American Medical Association last year therefore I am responsible for every paper read before that body—when there were hundreds of papers read in over a dozen Sections before several thousand members—is so amusing that I pass it by with a smile at the author's simplicity.

One sentence of my letter I wrote perhaps better than I knew. In the account of Sanarelli's experiments a certain sentence, "I have seen unrolled before my eyes, etc." was quoted by "A. Tracy" in the original paper (No. 1). In that pamphlet two references were given, one to the *British Medical Journal*, the other to the *New England Medical Monthly*. I stated that this entire sentence occurred in neither of these journals and I added: "Whether it is quoted from some *other source not indicated* or has been deliberately added, I leave you or A. Tracy to explain." The "reviewer" explains that this quotation *was* from another source not indicated (surely this was "vague and indefinite"), namely, Sanarelli's original Italian paper, though no reference was made to it.

Inasmuch as in my letter to Mr. Brown I gave the reference to Sanarelli's original paper the anonymous author of the "review" pays me the compliment of supposing that I am a facile Italian scholar, and therefore, that I was perfectly aware that Sanarelli himself wrote this sentence. "With the volume in his hands, the original article open before his eyes," says the "reviewer," "would he have us believe that he did not take the trouble to compare and verify the only quotation from it which appears in the pamphlet? He did not see it? Credat Judæus Apella! There are limitations to credulity. But how queer must be that sense of honor which would permit a man to make a disgraceful imputation knowing all the while that every word of it was false!"

The simple facts of the case are these. Unfortunately I am not an Italian scholar, and have never even seen Sanarelli's original article. In order to find out the *real* facts, I wrote to a friend who reads Italian well, to learn whether these five patients really died, as the American Humane Association pamphlet (No. 2) asserted. He replied giving me the original reference, and stated that not one of them died.

As the "reviewer" points out that this quotation by "A. Tracy" was from Sanarelli's original paper, a very interesting enquiry arises, viz., if "A. Tracy" in Senate document No. 78, as is now claimed, quoted from this original paper of Sanarelli, it is in order for him now to explain how it is when Sanarelli's original paper states that all of these patients recovered he states that some, if not all of them *died*, and how he dares to quote nearly a page of oratory about "scientific murder" and "assassination," based upon this false statement.

On page 26 of the anonymous "review" the author disputes the value of tuberculin as a test for incipient consumption in children. Were it worth my while I could give him references to disprove this statement, but in view of his amazing ignorance of modern medical progress as evinced by the next statement, I do not propose to take the trouble. He says "Dr. Keen knows perfectly well, in the first place, *that phthisis, however early discovered, is not in all probability a curable ailment*." Has he never made a postmortem examination and found a cured phthisis? Has he never visited, or even read of, the Adirondacks, or Denver, or Colorado Springs, or Minnesota, or Arizona, or New Mexico, or a score of other such places? Has he never read of the many books and pamphlets on sanatoria for consumptives? Does he know nothing of these modern movements? Koch's discovery of the bacillus of tuberculosis by experiment upon animals in 1882 has done more to help in curing consumption and other forms of tuberculosis than any other one means and especially by its early recognition. If he will consult the recent Prize Essay on "Tuberculosis as a Disease of the Masses and how to Combat it," by Dr. S. A. Knopf of New York he will be made aware of the facts. This essay was awarded the prize by the International Tuberculosis Congress last year in Berlin in a competition in which 85 prize essays were presented from all over the world.

When I see the statement that phthisis is not curable even when discovered at an early stage, put forth seriously by my anonymous reviewer, I throw down the pamphlet in despair. One can not argue further with such dense ignorance. It is equal only to the assertion of another medical light among the antivivisectionists, that brain tumors can not be located outside the motor area. W. W. Keen, M.D.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Typhoid Fever.

MANAGEMENT AND TREATMENT.

Dr. Frank Billings emphasizes the advantages of hygienic over drug treatment. The room should be properly selected for its conveniences and freedom from all unnecessary draperies and furniture. Thorough cleanliness is necessary. All soiled garments and linen should be disinfected in a solution of corrosive sublimate (1 in 1000). The skin of the patient may be sponged with the same. Competent nursing will prevent dry parched lips, foul tongue, sordes and decubitus. Milk is the best diet. Animal broths should not be used alone as a food, nor given when diarrhea is present. When patients are suffering from nausea, vomiting, poor digestion, constipation or diarrhea, milk constitutes the ideal diet. Drug treatment will not lessen mortality. Emergencies, however, must be met as they arise. The Brand bath is of great merit because of its increasing to such a degree the elimination of the toxins. The bath is indicated when the temperature reaches 102.2. The temperature of the bath should be about 68 F. and the duration about fifteen minutes, with good friction. This is to be repeated every three hours if the temperature reach 102.2 again. The antipyretics are harmful, because they do not prevent the formation of toxins but do diminish their elimination. Treat the delirium, heart failure and bronchitis with drugs if necessary. Constipation requires enemata and laxatives.

Tyson, of Philadelphia, states that milk is the safest and by far the most satisfactory diet, for the reasons that it is a properly constituted diet of proteids, fats, sugars, minerals and water, which demands modification as to proportion by reason of age, occupation and climate. As to the quantity required, it may be for adults 4 ounces as a minimum, to 8 ounces as a maximum every two hours. If diarrhea is present he instructs the milk to be boiled or peptonized. A deviation from the milk diet must be made in some cases because of its disagreement with the patient or because of some prejudice against it. In his experience such patients are seldom found. A second consideration is that milk sometimes increases the tendency to constipation. In such cases the milk should not be boiled. This condition may be further counteracted by the addition of buttermilk. He believes that there is but little danger in substituting the meat broths as far as their favoring the multiplication of bacteria in the intestines is concerned. He states that such preparations should be made by the use of heat and thus should be sterile at the outset and consequently should not be any more of a culture medium when introduced into the bowel than other articles of diet permitted in typhoid fever. He says in case milk cannot be assimilated after reducing the quantity to the minimum amount, that there is no more satisfactory nourishment than albumin water. The whites of two eggs to a pint of cold water is an average proportion, to which a teaspoonful of lemon juice may be added as a flavor. As to the diet in the convalescent stage, he always adheres to one rule, namely: Adhere to the liquid diet until the temperature has been normal one week, then allow one soft boiled egg daily and after a few days other articles may be added, such as well-boiled rice or well-cooked oatmeal, two or three raw oysters, etc.

Dabney, in *Virg. Med. Month.*, observes the following points in the treatment of typhoid fever: Clean the intestines with a mild cathartic. Stimulate the vasomotor system by the regular application of cold water with constant friction. Colonic flushings should be given when necessary. The patient should be allowed an abundance of cold water. Clean bedclothing, sunlight and air are demanded. Give a readily assimilable diet at long intervals. Watch very carefully for complications by studying carefully the pulse and temperature. Never give a remedy that tends to increase vasomotor paresis. The coal-tar products especially are to be avoided. [The nitrites produce marked dilatation of the peripheral vessels, producing a paresis of the same.] Avoid, he states also, all stimulants as a routine practice, such as alcohol, strychnin, nitroglycerin and ammonia. The use of digitalis he regards as unphysiologic and at times positively dangerous in this disease.

William Osler, as noted in *Phil. Med. Jour.*, states that the treatment of typhoid fever should consist in: 1. A careful and thorough nursing to which as much as to any other single feature is attributed the low rate of mortality. 2. The diet should consist of milk with lime-water and egg albumin during the febrile stage. Rarely should artificial foods be ordered, but an abundance of cold water. 3. Hydrotherapy, either the full tub at 70 F. or, if occasion requires, ice cold sponges. 4. No drugs should be given unless the pulse becomes rapid and feeble; alcohol in the form of good whisky should be given and strychnin in full doses if necessary. No antipyretics and no intestinal disinfectants are necessary. Special complications require special treatment.

TO DISINFECT THE URINE AND FECES.

The importance of disinfecting the urine is now universally recommended, as the presence of the typhoid bacillus has been demonstrated in 40 per cent. of the cases at some stage of the disease. Any of the chemical disinfectants may be used to produce disinfection of the urine and stools of the patient. Carbolic acid is probably the best by making a 5 per cent. solution, and using one part of this solution to two or three parts of urine. The bed-pan and urinal should be partly filled with an antiseptic solution constantly.

The following may be of service as an intestinal antiseptic and to relieve tympanites:

℞.	Beta naphthol	gr. xl	2	66
	Salol	gr. xxx	2	
	Pulv. arom.	gr. xv	1	

M. Ft. chart. No. xii. Sig.: One powder every four hours.

The following may be administered as a heart tonic:

℞.	Caffeinæ citratis	gr. viiss		05
	Tinct. strophanthi	ʒi	4	
	Aq. q. s. ad	℥ii	64	

M. Sig.: Shake; one teaspoonful every four hours.

F. C. Keays, in *Med. Record*, employs the tub bath as a routine treatment, given every three hours when the temperature is 103 or over. The bath is usually started at 80 F. and run down to 70 or 65 for a period of ten or fifteen minutes. As a substitute in some cases, alcohol sponge baths are used, the alcohol being cooled by ice. The baths generally prevent delirium. Whisky is very efficacious in alcoholic patients. Hypnotics may be given per rectum in delirious patients. Nausea and vomiting are relieved by milk modified with the following:

℞.	Cerii oxalatis	gr. v		33
	Sodii bicarb.	gr. x		66

M. Ft. chart. No. i. Sig.: Add to eight ounces of milk.

Tympanites may be treated by turpentine stupes, rectal tube and turpentine by the mouth, five to ten minims. If hemorrhage occurs, the patient should be kept quiet, cold ice coil applied to the abdomen and saline enemata or saline infusions should be given to replace the blood lost by hemorrhage.

To relieve the tympanites, Hare recommends an enema of soap and water, and if a more active carminative is indicated a pint of the milk of asafetida may be used. If this fails to move the bowels, then one or two drams of oil of turpentine may be thoroughly mixed with the asafetida or the soap and water, and used in the form of an injection. The injection should be administered gently with a fountain syringe which should be elevated not more than two feet above the patient.

H. C. Wood emphatically states that turpentine should be administered in every case, commencing about the end of the second week. He states that both laboratory and clinical experience are positive in their concordance in showing that the drug has a specific local action on the typhoid ulcer and the bacillus which it contains.

As an intestinal antiseptic in typhoid fever, the following has been recommended:

℞. Acidi thymici			
Guaiacol carbonatis			
Saponis (medicinalis) āā	ʒiss	6	

M. Ft. pil. No. xxx. Sig.: One pill every four hours.

TREATMENT OF THE DIARRHEA.

Hare states that the diarrhea is not to be interfered with unless the patient has more than three movements a day or unless these movements seem to weaken the patient. Under these circumstances he administers the following:

℞. Acidi sulphurici arom.	ʒi	4	
Ext. hematoxylin. fl.	℥ss	16	
Spts. chloroformi	℥ss	16	
Syr. zingiberis q. s. ad	℥iii	96	

M. Sig.: Two teaspoonfuls every two to four hours.

If the diarrhea is very marked and the patient is weak, he adds spirits of camphor to the above mixture, and small doses of morphin if insomnia is present.

Some of the bismuth preparations act very efficiently in combination with other intestinal astringents, as follows:

℞. Bismuthi subnitratis	ʒii	8	
Tannalbin	ʒii	8	

M. Ft. chart. No. xii. Sig.: One powder every two or three hours.

Or, as stated in Merck's Archives:

℞. Morphinæ sulph.	gr. ii	.	1
Bismuthi phos. (soluble)	ʒiss	6	
Tinct. krameriæ	ʒiv	16	
Syr. tolutani	℥i	32	
Aq. destil. q. s. ad	℥vi	192	

M. Sig.: One dessertspoonful every three hours.

In the diarrhea of typhoid fever Yeo recommends the following to be given in the form of an enema:

℞. Pulv. opii et ipecac.	gr. v		33
Acidi tannici	gr. x		66
Pulv. acaciæ	ʒi	32	

M. Sig.: Mix this with two ounces of warm water and inject after each movement of the bowels.

And internally the following:

℞. Bismuthi salicyl.			
Bismuthi carb. āā	gr. xl	2	66
Pulv. acaciæ	ʒii	8	
Aq. q. s. ad	℥ii	64	

M. Sig.: A dessertspoonful every three hours until the diarrhea is relieved.

In case of hemorrhage use the above enema, increasing the Dover's powder to ten grains. The object is to arrest all intestinal *movement and* keep the intestine at absolute rest. At the same time give the following by the mouth:

℞. Acidi gallici	gr. lx	4	
Spts. vini rectif	℥i	32	
Dissolve and add:			
Acidi sulph. arom.	ʒi	4	
Liq. opii sedativi.	m. xv	1	
Aq. cinnamomi q. s. ad	℥vi	192	

Fiat mist. Sig.: Take two tablespoonfuls every hour for six doses, and then every three hours.

Medicolegal.

Determining Compensation for Pain and Suffering.—It is impossible, the Supreme Court of Kansas says, in the case of James vs. Hayes, to fix any rule by which damages compensating for pain and suffering can be estimated, or for ascertaining what will exactly repay for permanent injury. It is not possible, in the nature of things, to accurately estimate the money value of pain. It can not be said that so many hours or days of suffering of such intensity shall be estimated at so many dollars; neither can it be estimated with any close accuracy the permanent damage that may come to one from a serious injury. The amount to be awarded must be left to the enlightened consideration of the jury, under all the evidence; and a verdict therefore will not be set aside unless the court can say that the amount thereof is so excessive as to indicate passion or prejudice on the part of the jury.

As to Christian Scientists Reporting Diseases.—The case of the City of Kansas City vs. Baird, which has been somewhat summarily disposed of by the Supreme Court of Missouri, Division No. 2, so far as it is concerned, was an action for the violation of a city ordinance by a "christian scientist," who was in the habit of receiving compensation for attending cases of sickness, and who failed to report a case of diphtheria. The ordinance in question provides that "every physician who shall prescribe for or treat any case of * * * diphtheria * * * shall immediately, on receiving knowledge that the person or persons are afflicted with any of said diseases, report the same to the board of health; and any physician who shall fail, neglect, or refuse to so report," etc., "shall be deemed guilty of a misdemeanor, and on conviction fined not more than $50." The petition charged that Mrs. Baird did "unlawfully fail, neglect, and refuse to report to the board of health of said city a certain case of diphtheria of which she had knowledge, which said case of diphtheria the said Amanda J. Baird, physician, attended and treated in professional capacity, and had knowledge that said patient was afflicted with diphtheria." She pleaded not guilty, was tried, and fined $50. Then she appealed to the above court, but it holds that the appeal was improperly taken to it, and has ordered the record transferred to the Kansas City Court of Appeals. The reason for this is that it holds that there was no constitutional question involved in this case. It is true, it says, that in her motion for a new trial she stated that the judgment was in violation of section 5, article 2, of the constitution of the State of Missouri, which contains a guaranty of religious freedom, but, the court declares, she might as well have named any other provision of the organic law, as it is evident that her constitutional right of religious freedom was in no sense involved in this action.

Medical Examiner's Knowledge—Serious Illness.—The United States Circuit Court holds, in Caruthers vs. Kansas Mutual Life Insurance Company, that there is a distinction to be made between certain cases where the agent was authorized to issue the policy and his knowledge was imputed to the company, and one where a medical examiner is only authorized to reduce the applicant's answers to writing, and the company issues the policy at its home office, in reliance upon the written warranty of the assured that the answers are full, true, and complete, and correctly recorded. In such case, the knowledge of the medical examiner at the time the application is made, it holds, can not affect the company, especially when a copy of the application, with the answers, is attached to the policy when delivered to the assured. The doctrine of estoppel, as it is termed, as laid down by the authorities in actions of this kind, it states, is that, if the assured has truthfully answered the questions propounded to him, and the agent of the company, authorized to ask the questions and write the answers down, putting his own construction upon such facts, deduces therefrom an erroneous answer, which he writes down, or writes a different answer down, the assured is not estopped or precluded by his warranty from showing that he gave true answers; and, if he establishes that fact, the company is estopped or precluded from questioning the truth of the answers as written down. Hence, the court holds that the mere fact that a medical examiner knows when writing them down that certain answers are false will not of itself create an estoppel in a case where the application has to be forwarded to the home office in another state, and the medical examiner has neither the power to pass upon the question whether the risk be accepted, nor anything to do with the delivery of the policy if issued. The word "serious" in a question asked of an applicant as to whether he has ever had any serious illness, constitutional disease, injury, or undergone any surgical operation, the court holds, means a grave, important, and weighty trouble. It does not consider it within the meaning of the question a case where the applicant suffered a fracture of the tibia fibula of one lower limb, the fracture being reduced and the limb placed in splints and bandages, a doctor attending him a week, and he being confined to the house about six weeks, besides which he had chills and fever a couple of days growing out of his confinement to his bed.

Liability for Neglect of Patient During Vacation.—The first appellate division of the Supreme Court of New York says, in the case of Gerken vs. Plimpton, that a physician who undertakes the treatment of a patient is bound to exercise not only the skill required, but also care and attention, in attending his patient until he notifies the patient that his professional relations are terminated. A physician and surgeon engages to bring to the treatment of his patient care, skill, and knowledge; and while, when exercising these, he is not responsible for mere errors in judgment, he is chargeable with knowledge of the probable consequences of an injury, or of neglect in its treatment, or unskilful treatment. And when a physician is employed to attend upon a sick person his employment continues while the sickness lasts, and the relation of physician and patient continues, unless it is put an end to by the assent of the parties, or is revoked by the express dismissal of the physician. Here, a physician and surgeon, whose qualifications as such were conceded, was called in as a surgeon in connection with a physician who was first summoned, who did not consider himself competent to treat a case of the kind, to treat fractured left arm. As a surgeon, the court says, he undoubtedly undertook the case, and in doing so assumed to give it the care and attention required. He put the arm in splints, and directed the patient to carry it in a sling. Thereafter, for about six weeks, he attended the case, and all of the physicians called as witnesses united in saying that the method of treatment adopted till then was proper. Then, however, he went away for a vacation. The bones had not yet united. But when he returned, after five weeks' absence and again examined the arm, he found that the bones had slipped from their position, overlapped, and in this position formed a union. He testified that, prior to his leaving, he told the patient that he was going away on his vacation for two or three weeks, and that, if she desired him to call again, she must send for him. Her testimony was that he stated that he was going away for a vacation, and that he would be back again within ten days or two weeks, and in the meantime directed her to keep her arm in the sling. Under all the circumstances, the court thinks that the jury was justified in finding, if it believed the patient's version of that interview, that the doctor had been negligent in the discharge of his duties which he had assumed in relation to this patient. The jury returned a verdict in her favor for $2000, which was reduced by stipulation to $500 to avoid a new trial being granted by the judge, who considered the amount of the verdict excessive. And whatever may be said of the original verdict of $2000, the appellate division thinks it quite evident that $500 was not excessive, especially when there was evidence tending to show that the only practicable treatment at that time was to fracture the bones where the union had taken place, and then to wire the bones in their proper position, and that the reasonable value for such an operation would be $500, after which the patient would be in the position she was when the doctor left for his vacation, but with no certainty that there would be a union of the bones.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N.Y.), July 27.

1 *Inebriety: A Study of Its Causes, Duration, Prophylaxis, and Management. Charles L. Dana.
2 Primary Resection of the Intestine for Gangrenous Hernia: Report of Two Cases of Successful Joining by Lateral Anastomosis, with the Connell Suture. Thomas H. Manley.
3 *The Use of Sulphate of Copper in Affections of the Cornea and in Affections of the Lid Other That Trachoma. J. Herbert Claiborne.
4 Needed Reforms in the Management of Youthful and Insane Criminals. Wm. G. Somerville.

American Medicine (Philadelphia), July 27.

5 *On the Classification of Intoxications from a Pathologic Standpoint. J. George Adami.
6 *Maternal Impressions Do Not Cause the Stigmata of Degeneration. Chas. E. Woodruff.
7 Two Cases of Emphysematous Gangrene Caused by Bacillus Aerogenes Capsulatus. L. M. Loeb.
8 Cystadenoma of Pancreas; Extirpation. Joseph Ransohoff.
9 Lithemic or Recurrent Coryza. B. K. Rachford.
10 Early Stage of Extrauterine Pregnancy. E. H. Trowbridge.
11 Inflammation of the Sigmoid and Colon. R. D. Mason.
12 *An Address on the Fight Against Tuberculosis in the Light of the Experience Gained in the Successful Combat of Other Infectious Diseases. Robert Koch.

Medical News (N. Y.), July 27.

13 *An Improved Method of Treating High-seated Cancers of the Rectum. Robert F. Weir.
14 A Case of Embolism of One of the Right Lenticulo-optic Arteries Complicating Pneumonia, with Autopsy. Charles J. Aldrich.
15 An Attempted Investigation of Some Christian Science "Cures." Lawrence Irwell.
16 *A Nasal Condition Affecting the Ocular Muscles. Heber N. Hoople.
17 Criminals and Defectives: How Best to Reduce Their Numbers. J. C. McCassey.

New York Medical Journal, July 27.

18 *The Wesley M. Carpenter Lecture on Conjugation in the Asexual Cycle of the Tertian Malarial Parasite. James Ewing.
19 *Some of the Conditions Following the Bottini Operation for Prostatic Obstruction. L. Bolton Bangs.
20 *Mental Disturbances in the Course of Cardiac Disease. A. Zederbaum.
21 The Ophthalmoscopic Examination for Kidney Disease. Edward Jackson.
22 What Is the Best Way of Prescribing Calomel as a Purgative? Adrian Landry.

Boston Medical and Surgical Journal, July 25.

23 *Specialism in Medical Practice: Its Present Status and Tendencies. F. H. Davenport.
24 After-treatment of Operation on Nasal Accessory Sinuses. Walter A. Wells.
25 *Diphtheria as a Complication of Measles. David N. Blakely and E. G. Burrows.
26 *Adhesive Plaster Strapping in Umbilical Hernia. J. C. Hubbard.
27 A Case of Nasal Deformity from a Medial Furrow, Corrected by Subcutaneous Implantation of a Portion of the Septal Cartilage. J. L. Goodale.

Philadelphia Medical Journal, July 27.

28 Atypical and Unusual Varieties of Appendicitis. John B. Deaver.
29 Appendicitis with Thrombosis and Suppuration in the Right Iliac and Femoral Veins. John G. Sheldon.
30 *Gastrointestinal Autointoxication Occurring with Forms of Mucous Colitis in Children. Henry Koplik.
31 Treatment of Infantile Diarrhea. William H. Robey, Jr.
32 Spastic Ileus. Edward Quintard.
33 Report of Cases Examined for the National Jewish Hospital for Consumptives, at Denver, Colo. Saling Simon.

Cincinnati Lancet-Clinic, July 27.

34 Some Reflections upon the Disturbances of the Liver and Alimentary Tract. J. L. Cleveland.
35 Heredity. H. H. Spiers.

St. Louis Medical Review, July 27.

36 *Pessimism in Cancer. G. Wiley Broome.
37 Report of a Case of Placenta Previa Marginalis with Infection of Placenta before Delivery. A. J. Detweiler.

Medical Fortnightly (St. Louis), June 25.

38 Pelvic Peritonitis and Exudates. Byron Robinson.
39 The Surgery of Syphilis. G. Frank Lydston.
40 Diseases of the Stomach. (Continued.) J. M. G. Carter.

July 10.

41 The Social Evil. A. L. Benedict.
42 Diseases of the Stomach. (Continued.) J. M. G. Carter.

Northwestern Lancet (Minneapolis), July 15.

43 *Practical Gynecologic Work in Hospitals for the Insane. Dwight S. Moore.
44 Diagnosis and Treatment of Acute Peritonitis. J. W. Bell.
45 Sights and Experiences of a Prairie Doctor. F. W. Maercklein.

Medical Age (Detroit, Mich.), July 10.

46 Gastrointestinal Autointoxication. W. L. Bierring.
47 A Brief Report of Some Interesting Surgical Cases. William H. Wathen.
48 Diseases of the Upper Respiratory Tract and Ear. B. A. Waddington.

Cleveland Medical Magazine, July.

49 Foods, Food Economics and Food Adulteration. Charles F. Mabery.
50 Cases of Prolonged Fever Not Typhoid. J. Park West.
51 Report of a Case of Tabetic Arthropathy of the Knee-Joint, Occurring in a Case of Paretic Dementia. Walter G. Stern.

Bulletin of Johns Hopkins Hospital (Baltimore), July.

52 A Case of Arterial Disease, Possibly Periarteritis Nodosa. Florence R. Sabin.
53 *Typhoid Infection Without Lesion of the Intestine; A Case of Hemorrhagic Typhoid Fever with Atypical Intestinal Lesions. Eugene L. Opie and V. H. Bassett.
54 *Frequency of Typhoid Bacilli in the Blood. Rufus I. Cole.
55 A Portable Operating Outfit. J. M. T. Finney.
56 *Ulcer of the Stomach Caused by the Diphtheria Bacillus. William R. Stokes.
57 *Ovarian Organotherapy. William Krusen.

Annals of Gynecology and Pediatry (Boston), July.

58 Demonstration of a Model of the Abdominal Viscera at the Annual Meeting of the Massachusetts Medical Society, June 12, 1901. Thomas Dwight.
59 The Diseases of Nutrition in Infants. T. M. Rotch.
60 The Relation of the Medical Editor to Original Communications. Harold N. Moyer.
61 Some Thoughts on the Ethics of Medical Journalism. Burnside Foster.
62 Improvements in Medical Education. Dudley S. Reynolds.

American Gynecological and Obstetrical Journal (N.Y.), July.

63 *The Relative Merits of Bipolar Version with Slow Extraction and Accouchement Force in the Treatment of Placenta Previa: Report of Fourteen Cases. Henry D. Fry.
64 *The Status of Hysterectomy for Uterine Cancer. Cyrus A. Kirkley.
65 *Some Observations on Cases of Tuberculosis of the Kidney Treated Surgically. Beverly MacMonagle.
66 *The Status of Menstruation or What Is Menstruation? Eugene C. Gehrung.
67 *Painful Menstruation as a Factor in Determining the Character of Operations on the Uterine Appendages. Philander A. Harris.
68 *Prolapse and Procidentia of the Uterus. Henry T. Byford.
69 *Ridges, Furrows and Prominences on the Imparous Uterus. Robert L. Dickinson.

Canadian Practitioner and News (Toronto), July.

70 The Roentgen Rays in the Diagnosis of Urinary and Biliary Calculi. S. Cummings.
71 A Report of Three Cases of Diabetes Mellitus. Geo. Hodge.
72 The Reduction of Turbinal Hypertrophies. D. J. Gibb Wishart.

University of Pennsylvania Medical Bulletin (Philadelphia), July.

73 Memoir of William Pepper. James Tyson.
74 *A Report of the Nasal Septum as Found in the Skulls of Forty Mound-Builders. George B. Wood.
75 Report of the More Interesting Obstetric Operations and Cases in the University Maternity from September to January, 1900. A. H. Remington.
76 *A Statistical Digest of Epithelioma of the Penis. Francis D. Patterson.
77 A Series of Twelve Articles on Medical Men Prominent in Civil and Military Affairs of Revolutionary Times. Francis R. Packard.

Colorado Medical Journal (Denver), June.

78 Treatment of Typhoid Fever. W. W. Reed.
79 Notes on New York Surgery. W. W. Grant.
80 How to Conduct a Case of Labor, Normal or Emergent. W. W. Woodring.
81 Historical Sketch of the Plagues of the World. Clarence L. Wheaton.

The Physician and Surgeon (Detroit and Ann Arbor, Mich), June.

82 The Career of Medicine: A Glorious Heritage of Golden Opportunity. Frank T. Lodge.
83 *Hysteria. George F. Butler.
84 *The Treatment of Acute Rheumatism. George Dock.
85 Tuberculosis of the Larynx. Preston M. Hickey.
86 Surgical Treatment of Cirrhosis of the Liver. Hal C. Wyman.
87 Recent Experience with Smallpox. (Continued.) Theodore Schmalzriedt.

Merck's Archives (N. Y.), July.

88 Some Ancient Therapeutics. Albert Schneider.
89 The Treatment of Rheumatism with Acetyl-salicylic Acid (Aspirin). C. A. Protin.
90 Treatment of Typhoid Fever. Virginius W. Gayle.
91 An Essay on Opium and Its Alkaloid Morphin, and Their True Value in Modern Therapeutics. (Continued.) Adolfo Luria.

Western Medical Review (Lincoln, Neb.), July 15.

92 *Address to the Graduating Class of the John A. Creighton Medical College. W. O. Henry.
93 Therapeutic Orthodoxy W. B. Ely.
94 Cerebral Cyst—Further Report of a Case. Van Buren Knott.
95 *Pernicious Anemia, with Report of a Case. Leroy Crummer.
96 The Office Treatment of Rectal Diseases. R. D. Mason.
97 Medical Colleges and Professional Standards. Inez C. Philbrick.
98 *The Operative Management of Retro-peritoneal Abscess of Appendicular Origin. Gilbert G. Cottam.
99 *Surgical and Pathological Observations in Epityphlitic Abscess. Augustus C. Bernays.

Medical Examiner and Practitioner (N. Y.), July.

100 Present and Former Use of Alcoholic Stimulants George W. Wells.
101 A Case of Cardiopulmonary Murmur Illustrating the Importance of Differentiation. P. Maxwell Foshay.
102 Occupation as Affecting the Death-Rate. J. E. Cowgill.
103 What Are the Consequences of Gonorrhea or Its Treatment in the Male or Female, Which Will Affect the Eligibility of an Applicant for Insurance? Frederick W. Main.
104 Collargolum and Unguentum Crede. Arthur De Voe.
105 Should the Fact that an Applicant Has Had Dropsy Necessarily Debar Him from Insurance? John L. Dickey.

Occidental Medical Times (San Francisco), July.

106 *The Present Status of the Teaching of Orthopedic Surgery in the United States. Harry M. Sherman.
107 *Chromic Acid as a Caustic in the Treatment of Epithelioma of the Skin. Douglass W. Montgomery.
108 A Case of Cesarean Section. Charles R. Harry.
109 Heroin, the Newer Silver Salts, the Intestinal Antiseptics. George F. Hanson.
110 The Treatment of Immature Cataract, with Report of Two Cases. Albert B. McKee.
111 Aural Gymnastics. M. W. Frederick.

Journal of Medicine and Science (Portland, Me.), July.

112 The Growth of State Medicine—A Brief Outline. Franklin Staples.
113 More About "The Life Needlessly Sacrificed." D. A. Robinson.

Ophthalmic Record (Chicago), July.

114 Case Resembling Septic Meningitis and One of Septic Thrombosis of Cavernous Sinus, with Exophthalmus and Orbital Cellulitis. Death. Don M. Campbell.
115 A Case of Blindness from Drinking Cologne Spirits (Methyl Alcohol). H. Gifford.
116 Rupture of the Iris from Contusion of the Eyeball. William M. Sweet.
117 The Operation of Couching Performed by a Mule. Lewis H. Taylor.
118 A Case of Conjunctival Tuberculosis, with Peculiar Onset, Ending in Spontaneous Healing—Report of a Case from the University Eye Hospital, Rostock, Germany. A. Levy.
119 *The Controversy About the Dioptric Value of the Cornea. Carl Weiland
120 *Treatment of Exophoria. Walter R. Parker.

Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), August.

121 Report of a Unique Case of Dermatitis Herpetiformis Pustulosa, with Its Histopathology. Wm. P. Loth.
122 Address before the American Dermatological Association at the Meeting in Chicago, June, 1901. Francis J. Shepherd.

Peoria Medical Journal, July.

123 Adenoid Growths in the Nasopharyngeal Space. Charles D. Thomas.

Kansas City Medical Record, July.

124 Report of a Few Extraordinary Cases, with Exhibition of Specimens. A. L. Fulton.
125 *A New Method of Controlling Morphin Sickness, and the Nausea Incident to Chloroform Anesthesia. E. Kuder.

The Canada Lancet (Toronto), July.

126 President's Address, Ontario Medical Association. Angus Mackinnon.
127 A Case of Laryngeal Stenosis from Papillomata. Geoffrey Boyd.
128 Sealing in the North Atlantic. John Macwillie

Nashville Journal of Medicine and Surgery, July.

129 Puerperal Infection. S. S. Crockett.

Detroit Medical Journal, July.

130 *Tropical Diseases and Tropical Remedies. T. P. Porter.
131 Desire First—Diet Afterwards. C. B. Stockwell.
132 Trachoma: Treatment by Salicylic Acid. W. F. Strangways.

Alabama Medical Journal (Birmingham), July.

133 Foreign Bodies in the External Auditory Canal. L. G. Woodson.
134 Malaria. E. O. Williamson.

Hot Springs Medical Journal, July.

135 *Simple Methods in Pelvic Surgery. John B. Deaver.
136 Gonorrhea and Its Treatment from the Present Standpoint. Henry J. Scherck.

Georgia Journal of Medicine and Surgery (Savannah), July.

137 Some Observations in a Series of Fifty Cases of Malaria. E. E. Murphy.
138 Types of Smallpox. Eugene Foster.
139 Hydrophobia: Its Prevalence and Prevention. Henry R. Slack.
140 A Hysterectomy with Complications. J. G. Earnst.

AMERICAN.

1. **Inebriety.**—In this article Dana analyzes some hundreds of cases of inebriety observed by him during the years 1891 to 1895. He finds that drinking habits in the parents are very general, but that, as the patients generally come from a class where such are common and as environment is favorable to their acquiring the habit, the stress on heredity is not important. Among 30 periodical inebriates, in 20 there was a distinct history of heredity: in 14 the father drank, and in 8 both parents drank. He thinks that drinking is largely a matter of habit and environment. The greater proportion of drunkards is furnished from amongst small tradesmen, mechanics, artisans, though laborers furnish a notable percentage. About two-thirds were males. In the majority of the cases the habit was commenced early: after 30 the danger is less. The average duration of a drunkard's life is about 15 years. The liquors used were mainly beer and whiskey and he sees no safety from alcoholism in the much lauded malt liquors, though among wine drinkers there was a marked absence of alcoholism. He is inclined to think that alcoholism weeds out the degenerate and in this way helps the state; he therefore thinks it has some beneficial effects. He holds, however, that it is always a poison when used in excess, and that when used in moderation, it is equally pernicious to a large class of human beings. The methods of prevention he suggests are the control of the sale, making it difficult to secure drinks, and the avoidance of the transmission of degeneracy by the marriage of alcoholics, together with public instruction. As regards treatment, he has comparatively little faith in the popular cures, though in the hands of a skilled physician they may be the best for the patient. He gives his prescription of tincture of nux vomica, tincture of capsicum, and tincture of cinchona rubra, advises thorough feeding, baths, etc., but does not speak very hopefully of any treatment of the habitual inebriate.

3. **Sulphate of Copper.**—After reporting a number of cases of eye affections other than trachoma treated by the use of solid-stick sulphate of copper, Claiborne sums up the use of this agent as follows: 1. In all acute attacks of inflammation of the cornea in which there is thickening with a succulent, velvety appearance of the upper lid. 2. In all recurrent attacks of superficial keratitis in which the same condition of the upper lid prevails. 3. In infiltrations of the cornea which are the result of preceding inflammations, associated with the same condition of the upper lid. 4. In maculæ of the cornea in children and adults which have occurred a reasonable time after an inflammation, whether the upper lid presents the characteristic appearance or not. 5. In chronic conjunctivitis attended by thickening of the lid associated with blepharitis. 6. In chronic dacryocystitis (particularly in those cases in which the canaliculus has been slit) attended by chronic conjunctivitis.

5. **Auto-Intoxications.**—The ordinary classification of intoxications in medicine is criticised by Adami, who calls attention to the fact, as it appears to him, that intestinal intoxications are exogenous as well as those on the external surface of the body. An auto-intoxication is an intoxication set up by the action of substances formed by or from the cells of the body; that is to say, either by the secretion of these cells or by the products of their disintegration. Such auto-intoxication is endogenous when the poison so formed acts without any preliminary passage out of the system. It is exogenous when it is due to resorption of the secretion, as, for example, when the obstruction of a duct is followed by reabsorption of the excretion. He thus classifies the intoxications in general: I. Exogenous, due to the actions of poisons entering the system from without. 1. Exotic or introduced; due to action of substances foreign to the organism, which gain entrance through the skin, digestive, respiratory or genito-urinary tract. 2. Indigenous or excretory. (*a*) Indirect auto-intoxication, due to absorption of retained excreta. (*b*) Disintegrative, due to absorption of decomposition and fermentation products developed in the external secretions through the action of these secretions. II. Endogenous. 1. Direct auto-intoxication. (*a*) Internal secretory, due to the action of excessive or unneutralized or modified discharges from the cells of one or other tissues acting directly upon the other tissues or body without previous discharge from the system. (*b*) Disintegrative, due to action of the products of decomposition and necrosis of one or other tissues acting in a similar manner. 2. Parasitic. (*a*) Microparasitic, the infections. (*b*) Macroparasitic.

6. **Maternal Impressions.**—Woodruff discusses the subjects of maternal impressions and endeavors to show the absurdity of the belief in their existence.

12.—See The Journal of July 27, p. 259.

13. **Cancer of the Rectum.**—The objections to Kraske's operation are first discussed by Weir, who mentions his attempting to follow the method in extirpation of high rectal cancer after the plan of Maunsell, whose method consists in opening the abdomen above the pubes, separating the peritoneum from the bowel extensively and passing a loop of tape by a long mattress needle from the opened pelvis through the rectum and out the previously enlarged anus. In this way he proposed to loosen the neoplasm, excising it and suturing the two parts of the bowel together. This plan did not work satisfactorily and Weir changed his procedure as follows: The fingers had freely detached the divided peritoneum so that the bowel and the entire contents of the sacral curve were liberated behind nearly to the tip of the coccyx and in front to the edge of the prostate. This gave room to tie around the bowel some three inches from the anus a couple of iodoform tapes about an inch apart. The intestine was then cut through and being free was readily raised out of the abdominal wound and held aside by an assistant. The lower end of the rectum was then seized by forceps in the hands of an assistant who drew it down and out of the anus in an everted condition. Untying the tape that closed this everted bowel, its lumen was opened so that a long pair of forceps could be carried through it up into the pelvis, when the end of the upper bowel was brought down within its clasp and by it the latter was drawn through the lower bowel out into the world. A couple of needles passed through the invaginated ends of the bowels, near their margins, allowed easy union by sutures of their edges with their knots inside the bowel and replacement of the same then was done. After the peritoneum had been sewed together and to the bowel, so that the pelvis and general abdominal cavity had been separated from one another by the peritoneal shelf, he deemed it best to provide drainage from the peri-intestinal space below by a tube introduced from just in front of the coccyx.

16. **Intra-Nasal Pressure and Asthenopia.**—The proposition advanced by Hoople is that mechanical pressure in a limited nasal area, called by MacKenzie the reflex area and confined chiefly to the middle turbinate, may produce muscular asthenopia. He quotes a number of authorities who have supported this view and reports observations confirming it. He thinks that we have ground for postulating the following: A moderate amount of pressure or mechanical irritation of the middle turbinate and adjacent septum will temporarily impair the

function of the ciliary muscle. The pressure is such as is produced by a spur or bend in the septum when it digs into a too-closely applied middle turbinate. The asthenopic disturbance in this particular class of cases and probably in all cases he thinks is from sympathetic fibers.

18. **The Malarial Parasite.**—In the Wesley Carpenter lecture Ewing discusses the life cycle of the tertian malarial parasite and notes the significance of the conjugation phenomena. He says: "The malarial parasite may be said to begin its existence in the human host, by a series of generations of ameboid bodies produced after conjugation of partially differentiated individuals. After the capacities of this method of reproduction have been exhausted, the sexes become separated, the male forms being represented by the flagellating bodies, microgametocytes, and the female by the large, pale, hyaline, non-flagellating bodies—macrogametocytes. These forms are sterile for the human host, but in the mosquito fertilization of the macrogametocyte by the flagellum or microgamete takes place, and the resulting motile form, the vermiculus, penetrates the tissues of the mosquito and becomes encysted. From this cyst develop the germinal rods which are inoculated into the human host through the salivary glands of the mosquito, to begin anew the pyrogenous or ameboid cycle. At several points in the series there remain wide gaps in our knowledge. We do not yet know how the germinal rods are transformed into ameboid bodies. The development of the sexual forms of the tertian parasite, as described by the writer, can at present only be offered as a probability, not as a demonstrated fact, while the origin of estivo-autumnal crescents is as yet entirely obscure. At the other end of the series there is possibly an entire new phase of development of the parasite or the production of some "resistant body" in the external world apart from either man or mosquito.

19. **Bottini Operation.**—The after-conditions of the Bottini operation are noticed by Bangs, who claims that the process of repair begins immediately after the operation, and he publishes and illustrates the appearance in a case of successful operation where the patient died some time later of pneumonia, showing the conditions found. He thinks that the spontaneous urination that follows the operation is due not only to the formation of grooves, but to contraction of the cicatrices and atrophy of the gland tissue, and gives his reasons for this belief.

20. **Cardiac Disease and Insanity.**—After the causes of certain cases of insanity associated with cardiac disease and especially puerperal insanity, which he thinks has some relation with cardiac disease, are discussed by Zederbaum, he concludes that the heart in a number of women during the puerperium and insanity is subject to hypertrophy, which may become permanent and pathologically affect the valves, and that latent cardiac disease of rheumatic and other origin may first come to the front during pregnancy or even after labor. Puerperal insanity, where a diseased condition of the heart is certainly known to exist, has not been, thus far, as he has learned from the literature, specially correlated with this condition, and he offers these views as a contribution to the subject.

23. **Specialism.**—The growth of specialism is noticed by Davenport who believes that it should be encouraged, as in this way only a healthy growth is to be obtained. The notion or impression that the limiting of one's self to a special branch of study has a narrowing or deleterious effect is, he believes, not against specialism in the abstract, but is true as regards specialists individually to some extent. This tendency to narrowing should be counteracted by catholic methods of practice in the early years and a gradual growth into specialism. He favors the larger use of consultations, and, in conclusion, notices certain lines of practice where the tendency to specialism has had its good effects.

24. **After-Treatment of Operations on the Nasal Accessory Sinuses.**—The main point in the after-treatment of operations upon the nasal accessory sinuses are stated by Wells as follows: 1. Persistence of suppuration is generally to be looked for with one or several of the following causes: Syphilis or tuberculosis, incompleteness of operation, presence of polypus or other obstructions in the nose, empyema of the neighboring accessory sinuses, inadequacy of the local treatment. 2. After-treatment requires not merely antiseptic precautions, but general supervision of the patient's health, and a careful supervision over the nasal fossæ, which must be kept free of secretions, and obstructions in which must be removed whenever found. 3. Empyema in a neighboring sinus, whose ostium is in close relation with the sinus operated upon, will maintain the suppuration in the latter unless cured. The frontal sinus is frequently the cause of antrum disease and the ethmoidal, the cause or effect of disease of both. 4. The cause of the continuance of suppuration is, in many cases, the non-removal of all diseased tissue. The irregularities and anomalies in the form of sinuses are often responsible for such failure. Curettage must be repeated from time to time according to indications. 5. The use of local after-treatment is extremely important. The so-called dry treatment is insufficient and unscientific, as it does not provide for the removal of products of suppuration; only a mass of powder is added to a mass of decomposing debris, whereby an unabsorbable accumulation results, which may retard recovery and give rise to unpleasant symptoms. 6. Frequent and thorough irrigations are the most rational method and protargol in 2 to 5 per cent. solution has given the best results, especially when alternated with a thorough swabbing of all parts of the inner walls of the sinuses with 20 to 40 per cent. solution in water and glycerin. 7. Immediately after operation the sinus should be packed with iodoform gauze, kept in place from 36 to 48 hours and subsequently the sinus should be irrigated daily, and later every other day. A thorough rubbing of the walls of the sinus is to be made with the solution mentioned every three, four or five days as required.

25. **Diphtheria in Measles.**—In two and a half years in the South Department of the Boston City Hospital 157 patients had been treated suffering from this complication, with 54 deaths, or 34 per cent. The death-rate for the uncomplicated diphtheria patients at the same time was less than 13 per cent. Of the whole number, 82, or 52 per cent., had laryngeal diphtheria, and of these 36 died. The greater number of laryngeal cases and the higher death-rate is most striking. The earlier in the course of measles diphtheria develops the more serious the disease. The causes of death are noticed by Blakely and Burrows. In 31 of the 54, diphtheria poisoning alone seems to be the factor, hence the importance of early diagnosis. The existence of diphtheria or the possibility of its onset should be borne in mind in every case of measles. Where the air-passages are especially vulnerable, nasal or laryngeal obstruction occurring in measles almost certainly means diphtheria. If the initial fever disappears and there is a later sudden rise of temperature or if the cough becomes "brassy" in quality or paroxysmal in character and is accompanied by rise in temperature, the possibility of diphtheria must be considered. If the initial fever persists and aphonia develops, diphtheria is probably the cause. The purulent or muco-purulent discharge of partial, or complete nasal obstruction with glairy discharge suggests diphtheria. If the general condition, in addition, suggests it, antitoxin should be given at once without waiting the results of cultures. In all obscure cases the patient should be given the benfit of the doubt.

26. **Umbilical Hernia.**—From the records of 66 cases of umbilical hernia in the Infant's Hospital here studied by Hubbard, he finds that umbilical hernia is ordinarily cured by the adhesive plaster strapping. The younger the child, the earlier the cure may be expected; the possibility of recurrence or failure is slight.

30. **Mucous Colitis in Children.**—The case described by Koplik is one of a class by itself, in children who have a tendency to constipation in infancy and in whom slight derangements of diet are liable to produce alarming symptoms, such as mucous colitis, the cause of which is very obscure. The symptoms are described in detail. In the primary period, capricious appetite, vertigo, waking in the morning with nausea, epigastric pain, vomiting, rapid, high-tension pulse, albumin in the urine, abdominal pain, and prostration are noticed. After the subsidence of these symptoms and emptying

of the bowel, passage of large mucous casts, or masses or small amounts of mucous with the movements occurs. The treatment must be by rest in bed for the immediate attack, stoppage of all food for a while, the use of large warm enemata of the Cantani salt solution twice daily, followed by a nutritive enema of somatose salts, a teaspoonful to 8 ounces of cold water; the vomiting and pain being relieved by small doses of codein. Strychnin should be given later in the case after the first twenty-four hours of the onset of symptoms, and the recumbent position maintained until the patient is strong and the heart returns to its natural action. Later a careful rigid diet, enforced, consisting of skimmed milk, fat being obnoxious, cereals, meat, and vegetables which leave very little residue, avoiding all such as appear undigested in the feces. To forestall an attack give a dose of Carlsbad salts, which seems to be a safe and effective cathartic.

36. **Cancer.**—Broome advocates the parasitic origin of cancer and deprecates the pessimistic views in regard to the possibility of discovery ot the germ. He thinks that cancer in its character resembles diseases known to be due to microbic action and asks if it is not due to that, to what is it due?

43. **Gynecology and Insanity.**—Moore reports his experience in the North Dakota Hospital for the Insane. Of 154 females examined only 27 were found to be normal, or 1 in 6. Retroflexions and retroversions were found in 77 per cent.; perineal lacerations in 66 per cent., and other lesions in lesser percentage. Operations were performed on 18 patients for the relief of menorrhagia, metrorrhagia, endometritis, endocervicitis and cervical and perineal lacerations. He claims that in most cases there was benefit in the patient's physical condition. Two patients have been discharged recovered since the operation. In a number of cases there was no improvement. In some there was temporary improvement, subsequent relapse, and a worse condition than before. In a large proportion the disposition was modified and the patients were more pleasant and more easily managed.

53. **Typhoid Without Intestinal Lesions.**—Opie and Bassett report a case which is apparently one of those in which the intestinal lesions are lacking, and review the literature. In other ways the appearance was that of typhoid, rose spots were present and a positive Widal reaction confirmed the diagnosis. Death occurred after complications, and at the autopsy the usual intestinal lesions of typhoid fever were not found, and Peyer's patches and the solitary follicles showed very little appreciable change, only minute points of pigmentation were visible in the solitary follicles of the large intestine. The presence of blood in the stools during the latter part of the disease was not the result of ulceration, since the mucosa was intact. The child evidently died of typhoid fever complicated by a condition resembling purpura hemorrhagica. The authors doubt the entrance of the bacilli into the blood through the uninjured intestine and think it not definitely proven. The case reported, however, emphasizes the fact that the localization of typhoid bacilli is not exclusively in the lymphatic apparatus of the intestine and that the intestinal lesions of fatal cases may be so slight as to be unrecognizable at the time of autopsy.

54.—See abstract in The Journal, xxxvi, p. 592.

56. **Gastric Ulcer from Diphtheria Bacillus.**—After reporting a case with carefully detailed autopsy, microscopic and bacteriologic examination, Stokes gives the following summary: "It is a point of some interest to note that the stomach is not always able to destroy large numbers of diphtheria bacilli, especially when the powers of resistance have been lessened by an acute disease. The ulcer which was found was certainly produced by the diphtheria bacillus, and it may appear later that these stomach lesions are not as rare as was formerly thought."

57.—See abstract in The Journal, xxxvi, p. 592.

63.—See abstract in The Journal, xxxvi, p. 1653.

64.—Ibid., 1651.

65. **Tuberculosis of the Kidney.**—MacMonagle treated and studied 5 cases. He treated the first 3 by nephrotomy; in 2 of these nephrectomy as a secondary operation brought about a condition as satisfactory as a cure. The third had six months of comparative comfort and then died of pulmonary tuberculosis. In the last two cases nephro-ureterectomy was done at once and the patients now seem to be cured. While admitting that 5 cases are not enough to draw definite conclusions from, they seem to be in line with the experience of others and he ventures to offer the following: "1. All cases with vesical symptoms should be put through an exhaustive examination to exclude tuberculosis in the beginning of their symptoms. 2. This examination should embrace staining and animal inoculation with urine taken from each kidney. 3. In all cases of primary tuberculosis—the other kidney being healthy—nephro-ureterectomy is indicated and will give good results. 4. In advanced cases involving one kidney and ureter, nephro-ureterectomy is indicated and preferable to nephrotomy. 5. In cases where but one kidney is involved, early nephro-ureterectomy promises good results in a high percentage of cases.

66.—See abstract in The Journal, xxxvi, p. 1650.

67.—Ibid.

68.—Ibid., p. 1651.

69. **Uterine Ridges and Folds.**—Dickinson calls attention to the fact that one or more longitudinal or transverse folds dividing the body of the non-gravid uterus into separate prominences or incomplete compartments are of common occurrence and are probably due to muscular contraction. Different points of the corpus uteri may present contrasting degrees of softness and hardness, and thus an irregular contraction occurs. The findings strongly resemble the pregnancy signs of early weeks. He illustrates the different forms and types and remarks that a study of the changes in greater detail and a comparison between them and the alterations found in the early weeks of pregnancy are reserved for another paper.

74. **Nasal Septums of the Mound-Builders.**—In the 40 skulls examined, Wood finds the conditions correspond with the results obtained by Price-Brown, in which 50 per cent. of the septas were found deviated. In only 32 per cent. were the septas actually straight and in the median line, though in 22 per cent. more the deviation was very slight. The 32 per cent., of course, did not include any possible deviation of the cartilage that might have existed during life. The figures do not warrant the assertion of Lennox Browne, who says that in aborigines of Africa, America and Australia there is one asymmetrical to every four symmetrical. He thinks these findings tend to disprove the theory that the commixture of races is accountable for the great majority of septal deformities developed during the growth of the child.

76. ***Epithelioma of Penis.***—The summary of this lengthy paper is that epithelioma is by far the most frequent form of carcinoma of the penis and that it furnishes us about 2 per cent. of all cancers, and that phimosis is a strong predisposing factor *by chronic irritation*. As a rule, the epithelioma is more frequent after middle life, though this has its exceptions. Syphilitic virus has nothing whatever to do with epithelioma, the scars of old lesions being nothing more than an area of decreased resistance or a cause of chronic irritation. Traumatism is a predisposing factor by decreasing resistance. The question of the contagiousness of epithelioma is still to be decided. It usually begins in the glands or prepuce; its origin in the urethra is very rare. Visceral metastasis is very rare. The prognosis in the precancerous stage is favorable, if radical treatment is employed; later it must be guarded. The only safe treatment in any stage consists in thorough eradication of the area of disease and of all the lymphatic glands involved. He gives an extensive tabulated statement of the cases in the literature.

83. **Hysteria.**—Butler points out the manifold symptoms that may be present, the peculiar forensic relations of the disease, hysterical accusations, crimes, etc. He suggests, in regard to the diagnosis, that it must be remembered that it bears the same relations to neurasthenia as paretic dementia does to locomotor ataxia, that is to say, hysteria is the cerebral type of a neurosis, the spinal

symptoms of which are most commonly found in neurasthenia. It may complicate any one of the neuroses as well as constitutional disorders. The underlying state of hysteria is to be taken into consideration. As regards treatment, the removal from home environment and sympathetic friends is essential. Any source of irritation that can be removed surgically should be attended to, as the morbid mentality of the hysteric centers around such. As regards medicinal treatment, the conscious or unconscious sexual factor in hysteria requires regulation, and here camphor monobromate may be found of value, but a course of healthy reading should be prescribed. The rest-cure treatment as carried on at home is a failure, since the psychic element is neglected. What the hysteric needs is not fat, but increased powers of higher inhibition and the rest cure which neglects this factor is worse than useless.

84. **Rheumatism.**—Dock says that we have no specific against pyogenic bacteria, which are probably the basis of rheumatic disease. Serum experiments have not been specially successful. Rheumatism is more than arthritis, and a complete examination of the patient must not be neglected, and the most important lesions are often concealed in the early stages. The first thing in treatment is rest in a well-aired room free from draughts and the proscription of all physical and mental exercise. Flannel or flannelette night clothes should be worn and be kept dry. The affected joints should be set at rest by bandaging and sometimes light splints to hold them in position. The bed should be kept as long as there is fever and joint-pain and longer if the heart has been involved, though in the disease with sound heart it is sometimes useful to allow the patient to be up even with a little fever and pain, but the effect must be carefully observed. The diet in the febrile stage must be light, consisting largely of milk with eggs, broth, gruels, and fruit juices and plenty of water. Carbonated water should be used sparingly on account of the danger of stomach dilatation. Tea, coffee and alcoholics should be prohibited, and mild purgatives, such as calomel in small doses, should be given in the beginning and care taken to avoid constipation throughout the attack. The salicylates are undoubtedly valuable remedies, relieving pain and lowering temperature. Failure to secure good results is often due to insufficient dosage. The close relation between the effective therapeutic and the toxic dose inclines Dock to think that these drugs act, partly at least, by checking bacterial growth. Another cause of failure is premature cessation or diminution of the drug. To get good results we must saturate the body well with the remedy. Generally not less than 120 gr. of sodium salicylate or a similar preparation should be given within twelve hours after the patient is put under the treatment in the average-sized man. Two or three large doses can be given in the next day or two, but are not often necessary. After a definite effect has been produced, the drug should be continued in doses from 30 to 60 gr. per day, stopping entirely as soon as the temperature and joint-conditions permit, but renewing on the first signs of relapse. The salicylates can be well combined with alkalies such as sodium bicarbonate given in camphor water or any other vehicle. It may be given per rectum in doses of .5 to 1 dram in water, and salol or salophen may be substituted. In a young girl with severe rheumatism, 360 grs. of sodium salicylate were taken along with alkalies in 18 hours, causing considerable hematuria and some other symptoms which soon ceased. Recovery from the effects rapidly followed cessation of the medicine. Smaller amounts, however, have caused dangerous symptoms and even death in severe cases where idiosyncrasy perhaps is to be suspected. Dock doubts whether local applications for the joints are specially valuable and says nothing in favor of antipyrin or other drugs of this class. The cardiac involvement should be looked for, prophylaxis by rest and diet is essential and we must remember that endo- or pericarditis is often latent. When evidences of heart disease, of whatever kind, are present, the salicylates should be used carefully and ice-packs, which he prefers to blisters, kept over the heart. Hyperpyrexia should be treated with the cold bath at 65 to 70 F. with ice water poured over the head, and friction to the extremities. For the delirium the bromids and chloral may be used in addition. For collapse, hot coffee, and hot-water packs over the heart or strychnin should be used. In convalescence the food should be cautiously increased, observing the effect on the heart, temperature and joints. Constipation should be guarded against. Iron is often of benefit, but sometimes aggravates, and arsenic and corrosive sublimate may seem then the more effective. Exercise and bathing should be taken up with care, and the condition of the heart followed for weeks or months.

92. **The Successful Physician.**—The address to the graduating class to the John A. Creighton Medical College by Dr. Henry reviews the conditions of success in practice. The young man may become a successful physician by: 1. Being competent, understanding his profession so far as his abilities and opportunities will permit. 2. By being honorable to his professional brethren, his patrons and the public. 3. By being friendly, agreeable and cheerful, but chary of boon companions, for a man is known by the company he keeps. 4. By not giving too much attention to politics, that is, while being a loyal citizen and faithfully discharging civil obligations, not actively entering political movements as such. 5. Sticking to the calling, and not being discouraged. 6. By always showing a deep and sincere interest in every case under one's care.

95. **Pernicious Anemia.**—This condition is discussed and a case reported. The diagnosis depends not on a single finding, but on the coincidence of many, as follows: The percentage of reduction of hemoglobin must be less than the reduction of cells; in this case 89 per cent. of cells and but 85 per cent. of hemoglobin. Billings adds by saying, that the individual count must be less than the volume count. Poikilocytosis and polychromatosis must be present. More importance is placed by some on the latter than the former, which is present in many other forms of anemia. There must be nucleated blood cells, including the megaloblasts. These were found in great numbers in the case reported. All these points together, together with the physical examination, and the absence of demonstrable disease elsewhere, confirm the diagnosis of idiopathic pernicious anemia—the Addison-Biermer-Ehrlich disease of the Germans.

98.—See abstract in The Journal, xxxvi, p. 128.

99.—Ibid.

106. **Teachings of Orthopedic Surgery in the United States.**—Circulars were sent out by Sherman to all the members of the Association of American Medical Colleges, asking facts in regard to instructions in orthopedic surgery in the institutions. In only 38 was it mentioned as being taught either didactically or clinically, it being behind most of the other subjects, the only one having a lower representation being genito-urinary surgery, which was taught in only 37 institutions. Nineteen of these colleges have commenced the teaching of orthopedic surgery since 1887. In 12 schools merely the statement that the subject was taught was given; 9 schools limited the teaching to didactic lectures a certain number of hours per week. *The showing, he thinks, is a poor one, considering the importance of the subject.*

107. **Chromic Acid in Skin Cancer.**—Montgomery recommends the use of chromic acid as a suitable treatment for skin cancer. He calls attention to the importance of thorough cleansing and curetting of the friable diseased tissue before the application, and the insurance of the sore being dried at the time. The pain is quite severe for a few minutes. The advantages are that the scab is tough and durable, which is an important matter in the subsequent healing of the wound. A number of cases are reported in which this treatment was used.

119. **Dioptric Value of the Cornea.**—This article is a controversial one replying to the statements and views of Dr. W. Suter in a former issue of the *Ophthalmic Record*. The exposition by Weiland is necessarily too technical to be reproduced, but his conclusions are that the cornea has a fixed dioptric value which is expressed by a convex lens, the dioptric power of which equals the reciprocal of the anterior focal distance, the lens being placed at the center of the cornea. Such a lens of 43.20 D. for a cornea of 7.8 mm. radius, placed at the

corneal center, will give of distant objects an air image of exactly the same size and at the same place as the real cornea does. This lens does the same refractive work on the parallel rays of light and air as does the cornea; both, therefore, have the same dioptric value. The formation of equal images of distant objects as an essential condition to be fulfilled by the lens which is to be the equivalent of the dioptric power of a refracting surface or system has been entirely overlooked by Dr. Suter and has caused him to make the untenable assertion that the cornea has no fixed dioptric value.

120. **Exophoria.**—The normal position of the visual lines is not definitely settled, but, according to Parker, in the opinion of most careful observers it seems to be at from 1.5 to 2 dioptrics esophoric. The average normal exophoric in accommodation is from 4 D. to 5 D. He does not think the opinion of those who claim that 2 D. exophoria for 13 inches is normal, is borne out clinically. The average difference of divergence between far and near is about 5 D. Thus the patient with 2 D. of esophoria for distance will have about 3 D. of exophoria at 14 inches. In orthophoria the average normal power of divergence is about 7 D., and the ratio of power of divergence to the power of convergence is about 1 to 3 or 4. There is no one symptom pathognomonic of exophoria; headache, asthenopia, dizziness, nausea, rapid exhaustion, diplopia, etc., may any of them be present. To determine the amount of exophoria, repeated tests should be made after careful refraction under a mydriatic and the treatment should be with consideration of the patient's general health, and hygienic surroundings as well as the condition of the ocular muscles. Never hope to cure a case by treating a single symptom. He summarizes the treatment of exophoria as follows: "1. Eliminate the possibility of the ambalance being a symptom of some general disease or nervous disturbance. 2. Refract carefully under a mydriatic. 3. If deviation is under 5 D. increase the power of convergence to 50 D. 4. If glasses must be worn for refractive error, decenter or add prisms up to 4 D. 5. Tenotomy or advancement.

125. **Anesthesia, Nausea.**—Kuder finds a valuable gastric sedative in chloretone, especially after the use of morphin in the sickness that it sometimes produces. He has also tried it as a preventive of nausea during or after general anesthesia. In a series of 7 cases, 15 grains of chloretone were given before administering the anesthetic; none of the patients vomited during or after the inhalations of chloroform or showed any gastric disturbance whatever. In one case in which it was necessary to give the anesthetic immediately after a full meal, chloretone was used as a preventive of vomiting with great success.

130. **Tropical Remedies.**—Porter suggests attention to local remedies employed by the natives in tropical regions, many of which are specially effective, as he has observed. One of these used for yellow fever consists in verbena officinalis and guinea-hen-weed (pentiveria alliacea) and has good results. He thinks if it were necessary, instances of the efficiency of aboriginal therapeutics in the treatment of almost all tropical diseases might be multiplied, and the subject is well worth following up.

135. **Pelvic Surgery.**—Deaver pleads for simplicity in surgical operations. He claims that it means safety, surety, confidence, neatness and saving of time. He prefers the abdominal route in the majority of cases as being simpler of performance, safer, avoiding distributing infection, and reducing the danger of general peritonitis by the use of gauze packing. It offers less liability of injury to the bowel, ureters, and important blood vessels, and adhesions are less likely to follow. It minimizes the danger of hemorrhage and aids generally by the facility offered for inspection. It also enables the surgeon to operate with very few instruments. One of the greatest advantages is the possibility of the use of the Trendelenburg position. Radical operations per vaginam are with few exceptions, he thinks, to be discountenanced on account of the limited area for manipulation, and the impossibility of inspection without destruction and removal of the uterus, which should not be done except for good and sufficient disease of that organ itself. The greater liability to hemorrhage, primary and secondary, the greater danger of injuring the ureters, bowels, bladder and large blood vessels, and the danger of doing incomplete surgery are mentioned, also the inability to repair satisfactorily injuries to the bowels or bladder, and lastly, he mentions the inability to deal safely with inflammatory masses which involve the vermiform appendix. It is good practice, he says, to remove the appendix when the abdomen is opened for other reasons, if it can be done without added risk to the patient, as every human being who is without an appendix has a better chance in the struggle for existence than he who is menaced by the treacherous and touchy little organ.

FOREIGN.

British Medical Journal, July 20.

Total Extirpation of the Prostate for Radical Cure of Enlargement of that Organ. P. J. Freyer.—The author has operated in four cases successfully for complete enucleation of all the lobes of the prostate through a suprapubic opening. After introducing the rubber catheter the most prominent portion of one lobe is caught if possible by long forceps and the mucous membrane covering it snipped by scissors. Through this incision a forefinger is introduced and the tumor enucleated, the same process being followed on the other side and subsequently on the middle lobe. During the removal of the lower lobe the finger is passed forward as far as the triangular ligament. Introduction of the assistant's finger into the rectum pushes forward and steadies the tumors, thus facilitating their removal. The bleeding, though a little profuse at first, is easily stopped. No vessels have to be tied or sutures introduced. A one-half inch drainage tube is inserted in the suprapubic wound for a short period; the results have been good. He discusses the subject and the anatomy of the parts and shows that each of the lateral lobes is really independent, the prostate being a double organ in early fetal life. In the removal by the method under consideration, the organ is enucleated in its capsule from the surrounding sheath, and then stripped off the urethra, which with its enveloping tissue is left intact. The ejaculatory ducts are also left uninjured when the lobes come away separately, or the urethra was pushed between them; he is not so certain as to this when the prostate comes away as a whole, as happened in one of his cases, but this is not of practical importance at the age at which the operation is performed. The large cavity left after enucleation of the prostate rapidly contracts by the inherent elasticity of the sheath, the contraction of the surrounding muscles and pressure of the neighboring parts; its surfaces being brought together, and the parts being vascular, union by first intention probably takes place. In this operation there was complete restoration of the power of voluntary micturition after habitual catheterization had been employed in one case for five or six years.

The Danger of Anthrax from the Manipulation of Horsehair, and its Prevention. Alexander Scott.—The dangers of infection from horsehair are noticed by Scott, who reports a case in which anthrax was produced by contact with this substance, and he thinks that such possibilities are frequent. For the prevention of the condition he would suggest that the workers in horsehair should always wear overalls and no one with abrasions or sores should be allowed to work unless absolutely protected. All workers should wash themselves frequently, and especially before taking food and any case of illness. Boils or swellings should be reported to the manager so that the disease may be taken in its early stages, and that other workmen similarly exposed can be warned. The bales should be immediately immersed in water, and no handling of the raw material be permitted, except in the wet state. With this, risk of contagion will then be only possible through abrasions of the skin. He has no faith in fans, respirators or currents of air; the germ must be killed; by such means it is simply shifted. The hair should be boiled, say for thirty minutes, in water to cleanse it and soften the agglutinative discharges, which may contain the germs. Afterwards steam should be applied for some time at pressure of 0.15 atmosphere. If complete disinfection by boiling is desired it can be accomplished by the use of a 2 per cent. solution of potassium permanganate, afterwards bleaching with 3 per cent. solution of sulphurous acid. All dust and residue should be carefully burned. With these precautions he thinks the disease may finally be stamped out.

Progress of Abdominal Surgery. Charles S. Kilner.—The history of abdominal surgery is reviewed by Kilner, who credits McDowell's first ovariotomy as the starting point. He also says the most scientific and valuable advance in the whole range of abdominal surgery has been the various operations for anastomosis between the stomach and intestines and between the different portions of the intestinal canal, for the principle of which and the rendering it of practical utility we are indebted to Professor Senn. He also gives credit to another American, Fitz of Boston, for our knowledge of appendicitis.

Some Considerations in Relation to the Investigation of Cancer. Herbert C. Major.—The alleged increase of cancer, and Newsholme's view that it is possibly largely due to improvement in registration and thoroughness in its recognition, etc., is first noticed by Major, who, while recognizing that the general opinion and weight of evidence appear to be in favor of actual increase, still thinks there is some basis for Newsholme's theories. As regards the question of specific parasites of cancer, he says: Can we admit it as settled that especially when the difficult and highly-special nature of the investigation is considered, that any number of failures should necessarily outweigh the apparently definite successes of Sjöbring and others in producing true cancer by inoculation, few as the successes have as yet been? May it not, on the contrary, be reasonably assumed that these results are well founded and the cause of failure should be looked for by further investigation?

The Lancet, July 20.

The Pathology of Hysteria. Thomas D. Savill.—After first showing a typical hysteric syncope, the author calls attention to the special clinical features: an innate, or inherited tendency to fainting spells, etc.; the sex of the patient, almost invariably female; the determining cause, usually either emotional or shock; the liability of the patient to flushings or flush-storms, which are interchangeable with one another and with faints; pallor lasting through the attack, indicating that it is almost certain to be due to vasomotor disturbances. The copious urination after the shock, on account of the kidneys being very sensitive to any alteration of the blood pressure, furnishes a sort of clue to the pathology. The cerebral blood pressure, as Leonard Hill has shown, is largely if not entirely regulated by the amount of blood in the sphlanchnic area where the arterioles are capable of an enormous amount of expansion and contraction, and this, Savill believes, is the basis of the pathology of the faints and some of the other symptoms. It seems highly probable that the nervous apparatus of the sphlanchnic area of hysteric individuals is unduly susceptible, readily influenced by emotional conditions. Next he notices the hysteric diathesis, characterized by the lack of will power, emotional instability and physically by vasomotor symptoms, such as flushing and sometimes even localized erythema or stigmata. Also these patients have the superficial and deep reflexes slightly exaggerated and there is a variability of vital phenomena from day to day which is characteristic. Sooner or later, generally before 25 or 30 years of age, a large proportion of these subjects has some decided manifestation of hysteric effects, such as hysteric attacks, anesthesia, etc. As regards the causes of hysteria the two predisposing ones are sex and heredity. Out of 336 cases which he collected, only 26 were males. He calls attention especially to the heredity in these cases, either direct or indirect, and to a point which he thinks has not been sufficiently emphasized, alcoholism in the parents as a cause of this condition. Among the exciting causes may be mentioned anything that will lower the bodily resistance, the will power or the emotional stability. He does not take any stock in the theory that celibacy and unsatisfied sexual desire are causes, though he says it is not a question easily settled. Environment undoubtedly has its effects, and education and social position count for something; the proportion of hysteric cases is largest amongst the leisure classes, though the difference in percentage is not great. He quotes Briquet that hysteric mothers lose their children more generally at an early age, possibly not knowing how to take care of them so well. The pathology of the condition, as already noted, is due to sensitiveness of the splanchnic circulation, and he finds in the ileo-hypogastric nerve a hysteric center. This nerve is apparently the centripetal depressor nerve of the abdominal sympathetic, and irritation of it by pressure in this region causes dilatation of the sphlanchnic area and consequently cerebral anemia.

Prognosis and Treatment of Ascites Occurring in Alcoholic Cirrhosis of the Liver. H. Campbell Thomson.—The author divides ascites which during life appears to be due to hepatic cirrhosis, into three groups: 1. Those in which the diagnosis is erroneous. 2. Those in which the ascites is associated with cirrhosis, but actually due to some other cause. 3. Those in which the ascites is directly dependent upon the cirrhosis. The liabilities of error in the diagnosis of cirrhosis are numerous and the first class is only mentioned for the purpose of emphasizing the necessity of basing the evidence of cures upon ultimate postmortem examinations. The commonest causes of ascites associated with, but not directly dependent on, hepatic cirrhosis are undoubtedly chronic peritonitis and chronic perihepatitis. The third group, where the ascites depends directly upon the cirrhosis, has a very bad prognosis, the majority of the patients dying within a few weeks after the ascites is first observed. The chances of cure of actual cirrhosed liver, of course, are minimal; but the condition of ascites due to other causes may be somewhat different. He refers here to Morison's operation, and gives a table of the cases thus operated on; concludes that if the operation is to have any future it must be yet shown that it possesses some distinct superiority over tapping. It should not be undertaken if there is reason to believe that ascites is directly dependent upon cirrhosis.

Tuberculosis of the Choroid. George Carpenter and Sydney Stephenson.—The summary of the paper is as follows: "1. Tubercle of the choroid may be met with in any form of tuberculosis, whether acute, chronic or obsolescent. 2. It is common in acute miliary tuberculosis and tuberculous meningitis, since it was present in 50 per cent. of our cases. As a rule the lesion was of small size, solitary, and limited to a single eye. 3. It is far more important in chronic tuberculosis than is generally supposed. It was present in 9.24 per cent. of our cases. The tubercle in this form of disease may be single, multiple, disseminated, or diffused. In very rare instances it may attain great dimensions and eventually even perforate the tunica of the eyeball. 4. It is present in a certain number of cases of quiescent tuberculosis. It generally takes the form of a large, more or less pigmented, area situated in or about the central region of the fundus oculi, with or without satellites."

Infantile Scurvy. Edmund Cautley.—The author reports four cases of infantile scurvy, two due to prolonged diet of sterilized cream and milk, and two to patent foods; in these cases the treatment consisted in a diet of unboiled milk, with fruit juice, meat juice and barley water. He believes that the use of boiled milk is by no means contra-indicated, and considering the possible infection of this food it is advisable; any harmful effects can be usually met by proper methods of treatment. While sterilized milk for a continuous diet may produce scurvy it will not, unless continued many months, and will then only produce a mild form of the disease. Any health infant can be brought up on a diet of boiled milk, suitably diluted, and mixed and given in proper quantities and at proper intervals. Failure to bring up the infant on such a diet is rarely if ever due to the fact that milk is cooked, but is due to some error in the mode of feeding or the amount given. A very slight tendency to scurvy can be usually remedied by addition of barley water and a little fruit juice.

Intercolonial Medical Journal of Australasia, June 20.

Value of Peroxid of Hydrogen, Chlorid of Cobalt ($CoCl_2$) and Ferrous Hydrate as Antidotes in Poisoning by Cyanid

of Potassium. C. J. Martin and R. A. O'Brien.—The possibilities of poisoning from cyanid, now used extensively in gold mining, led the authors to make a series of experiments on the antidotes to this chemical. They find that there is no physiologic antidote to hydrocyanic acid or any remedy available that can follow this powerful poison into the circulation and neutralize it. All we can do is to endeavor to stop further absorption by converting the unabsorbed balance into some nonpoisonous compound. To do this, chemical reaction must take place very rapidly, and hydrogen peroxid fails entirely from its slow action. The cobalt salts are poisonous; otherwise they would be very useful, since their reaction with hydrocyanic acid is instantaneous. Ferrous salts, administered with sufficient alkali, are as efficacious as cobalt salts. At body temperature the formation of ferrocyanids is instantaneous; but they possess two disadvantages: The difficulty of keeping them in solution and the absolute necessity of administering enough alkali at the same time to completely neutralize any stomach contents. This can be best effected by simultaneous administration of magnesium oxid. The displacement of ferrous salts by other remedies of recent years is no doubt due to inadequate appreciation of this fact. The extreme rapidity of the action of cyanid poison leaves no time to prepare solutions and collect remedies. The authors, therefore, recommend that in all mines and mining laboratories where the chances of accidental poisoning from cyanids occur, solution of ferrous sulphate, weak potash, and a small package of magnesium oxid, together with a stomach tube and suitable receptacle for mixing, should be kept ready prepared in some suitable position, so that they can be administered with only a few seconds' delay.

Bulletin de la Soc. Med. des Hop. de Paris, July 11.

Clinical Determination of the Coagulability of the Blood. G. Milian.—The blood coagulates much more rapidly after it has been flowing a few minutes than at first, especially in the drops squeezed out after the hemorrhage has ceased. Retraction of the clot may not recur at the commencement of a hemorrhage, but may appear toward the end. For these and other reasons, Milian recommends that a hundred glass slides should be arranged along the edge of the table and the patient whose finger is pricked should deposit a drop of blood on each slide, while the number of the drop, the moment of its contact with the slide and the moment when coagulation occurs, are recorded and also the few drops squeezed out of the finger after all hemorrhage has ceased. The exact moment of coagulation can be determined by raising the slide upright. While still fluid, the drop of blood takes the shape of a tear, but as soon as it is coagulated it retains the shape of an inverted saucer. It is important to note the number of drops that fall during each minute of the hemorrhage. In a normal person it lasts two or three minutes and about 20 drops fall. In a person with atrophic cirrhosis, the hemorrhage lasted nine minutes, with 220 drops. In Recklinghausen's disease the curve was intermediate between these extremes. Coagulation occurred in the first drop from the first subject in thirteen minutes; from the second in twenty-nine and from the third in twenty. In the last drop, in twenty-two minutes in the first case: in forty-five minutes in the second, and in thirty minutes in the third. Milian announces that very valuable information can be derived from this comparative study of the coagulating power of the blood in various affections, and promises further details later.

Protracted Uremia with Bulbar Symptoms. P. Londe. In a case of protracted uremia with a bulbar syndrome, the first symptoms were vomiting, distress, with or without gastralgia, suffocation and tachycardia, with indications of progressively increasing uremia, while the condition of the heart did not change. The affection induced vasomotor disturbances, pulmonary and intestinal hemorrhages, vasodilatation, interrupting habitual arterial hypertension, edema, emaciation, various psychic disturbances connected by a typical "anxiety," respiratory disturbances with paroxysmal distress, periodic respiration and a terminal labio-glosso-laryngeal paralysis. Londe calls attention to this bulbar form of protracted uremia. The bulbar syndrome includes the paralysis, vomiting, tachycardia and dyspnea—simple, pseudo-asthmatic or with periodic respiration—the latter a symptom of juxta-bulbar origin—the attacks of distress and the intestinal hemorrhages as vasomotor disturbances. The distress is a symptom which may appear isolated, in the latent form of awaking with a start, and may herald periodic respiration. The Cheyne-Stokes respiration observed does not belong in the bulbar or basilar syndrome proper, but must be due to some transient or permanent derangement in the supra-bulbar tonic centers. The anxiety observed explains to a certain extent the mental condition of certain patients with Bright's disease, who resemble anxious melancholiacs. In these special cases of protracted uremia small doses of opium (5 or 10 cg. in a suppository) are useful in relieving the anxiety. During the periodic respiration, theobromin proved more effective than digitalin, alternately given and suspended for three days. It is possible that lumbar puncture might prove a useful measure in these cases of uremia with Cheyne-Stokes respiration. This case and others observed by Londe, indicate that the medulla oblongata plays a more important rôle in certain cases of uremia than has been hitherto appreciated.

Revue de Chirurgie (Paris), July.

Disturbances Caused by Wisdom Teeth. Moty.—The real pathogenic cause of the troubles due to wisdom teeth, is the inclusion of proliferating epithelial debris around the roots of the tooth. This debris may remain latent, and the proliferating evolution usually starts under the influence of various causes, such as the infection of the gum during the eruption of the tooth, repeated traumatisms from the action of the jaws and caries of neighboring teeth. In many cases, however, the epithelial proliferation occurs without appreciable cause. This vicious evolution is as frequent in the upper as in the lower jaw, but causes less disturbance in the former. Sixteen typical cases are described in detail in support of this new theory, which is proved by the discovery of gingival epithelium proliferating more or less, and, occasionally, irregular particles of enamel around the roots of the extracted teeth. Another proof is the persistence of a fistula with no phlegmonous conditions nor actual dental lesions, and its spontaneous healing as soon as the tooth is extracted; also the comparatively frequent subacute cases with no symptoms except a moderate pain and a certain amount of mobility of the tooth and hyperostosis of the jaw; also the lack of relief from the methods ordinarily employed against strangulation: extraction of the second molar and multiple incisions of the apparently phlegmonous focus. The upper wisdom teeth never cause severe disturbances as strangulation does not occur. Slight disturbances are due to irritation of the gum during the eruption of the tooth; severe, to the proliferation of the epithelial debris, the total inclusion of the tooth or caries. The gravity of the disturbance is usually on account of the invasion of the dental canal by the inflammatory process, the infectious character of this process in case of caries, rendering it especially serious. Strangulation complicates nearly every case, and extraction is the only rational treatment. If necessary to preserve the tooth, the fungus growths at the roots must be scraped off through the external surface of the jaw without opening the buccal cavity.

Archiv f. Gynekologie (Berlin), xxxvi, 1 and 2.

New Method of Extirpating Uterus and Vagina. A. Doederlein.—The entire uterus is drawn down and bisected on the median sagittal line and each half is *at once seized in* a clamp. The advantages of this procedure are that the entire field of operation is exposed at one stroke and the uterus can be removed without touching the surrounding tissues or wound. Experience with thirty-six patients thus treated has been extremely satisfactory, Doederlein reports.

Remote Results of Extirpation of Primary Carcinoma of the Vagina. Kroenig.—A large number of cases that have been followed are tabulated and the details described. The best results were attained in the cases in which the uterus was removed at the same time. The carcinoma was in the posterior portion of the vagina in 75 per cent. of all cases, and in these the corresponding circle of the rectal tissue should always be removed. In a personal case described the vagina was so infiltrated with tumors that the finger could scarcely reach the portio. The patient was pregnant and Kroenig waited until term. When labor became vigorous he curetted with a large sharp spoon, the protruding cancerous masses and delivered a living child with forceps. Hemorrhage was controlled with tampons, and the patient left the hospital the ninth day.

Treatment of Eclampsia. A. Glockner.—In 6902 births at the Leipsic clinic, eclampsia followed in 143, that is in 2.07 per cent. Of this number, 80 per cent. were primiparæ; 85.44 per cent. of the 158 children survived the birth. More than 1 per cent. of albumin was noted in 77.5 per cent. Omitting the moribund cases the mortality was 15.49 per cent. In two instances epilepsy developed subsequent to the eclampsia in patients 22 and 26 years of age, respectively. The treatment was venesection, with or without infusion of salt solution; the os was dilated with a rubber bag or enlarged by incision between clamps, and delivery was accomplished at once in profound narcosis. In four cases the convulsions were arrested for twenty-five to seventy-nine hours after one to three venesections. Every case was treated by lavage of the stomach and injection of a solution of some vegetable acid, usually tartaric. In one case a primipara was delivered in seventeen minutes after operative and bloodless dilatation of the cervix. None of the patients succumbed to hemorrhage and only .68 per cent. to sepsis.

Congenital Atresia of the Small Intestine. R. Bretschneider.—In eleven cases in which this condition was recognized, an operation was performed for its relief; entero-anastomosis in 4 and an artificial anus in 6. In Franke's case the artificial anus became obstructed with food matters. A mucilaginous substance administered with the food would have prevented this. In the personal case described, the visible intestinal peristalsis, lack of spontaneous feces and vomiting of fetid masses by a new-born infant, in connection with the general depression, indicated intestinal occlusion. A circular constriction at the lower third of the ileum was found at the laparotomy, fifty hours after birth. The atresia and 4 cm. of the intestine were excised. None of the children recovered, but as the operation is the only chance of saving life, it should be undertaken at once and the earlier the diagnosis, the better.

Surgical Treatment of Post-Operative Peritonitis. K. Hintze.—There is a chance of recovery in apparently the most unfavorable cases of diffuse post-operative peritonitis. Hintze reports two patients successfully operated on. The earlier and the simpler the operation, the greater the chances of recovery. As a rule merely evacuation and drainage of the exudate, with dry asepsis, are necessary.

Treatment of Chronic Endometritis in General Practice. C. Menge.—Every case of chronic endometritis requires appropriate general treatment, including suggestion in case of hysteria and neurotic complications. The curette should be banished and the general practitioner is also warned against zinc chlorid, but formalin is earnestly recommended for local application in both the hemorrhagic and the secretory varieties of endometritis. It does not cause colic; the scabs are not so hard and thick as with other caustics. It is strongly bactericidal, but there is no toxic absorption, as part of the formalin is retained in the chemically altered tissues, and the rest can not penetrate through this shield. Menge recommends formalin to the general practitioner as especially adapted for ambulant treatment of chronic endometritis, in the proportion of 30 parts of formalin to 70 of water. It is applied on a hard rubber sound wound spirally with a strip of cotton 15 cm. long by 1 to 1.5 cm. wide, thin enough to be transparent, commencing to wind at the tip, the edges of the strip just touching. When the winding is complete, the sound is drawn spirally through the fingers once more to smooth the cotton. Two or three of these cotton-wound sounds are used for each patient. The formalin is never applied at the time of the preliminary investigation, but two or three days later. After insertion of a speculum the external os is washed with sublimate; the cervix is opened with a retractor and the cotton sound then applied. A little gauze is inserted in the vagina afterward to catch any exudation, and is removed by the patient in twenty-four hours. The patient lies quiet on the table five minutes and is then dismissed, to return in eight days. Seven years of experience have shown the great benefits to be derived from this method of treatment and the absence of all danger. The contra-indications are pregnancy, gonorrheal affections, polypi or myomata, and tubercular or malignant alterations of the uterine mucosa.

Berliner Klinische Wochenschrift, July 1.

Hysteria Masking Carcinosis. Lilienfeld.—A woman of 60 who had been a notorious hysteric complained of digestive disturbances and constantly increasing weakness of the legs. The only objective symptom observed was the absence of knee-jerk, which was supposed to be explained by a gouty affection of the knees. After four weeks the patient died with indications of apoplexy. At the autopsy a carcinoma was discovered in the stomach with multiple metastatic carcinosis of the nerves and meninges.

Centralblatt f. Bakteriologie (Jena), June 5.

Third Annual Report of the Italian Society for the Study of Malaria. Celli.—This society was founded by private initiative and has had only 13,000 lire, or about $2600, at its disposal. The reports and bulletins with recent works on malaria, are distributed to all parts of Italy, and physicians in malarial districts are kept posted in the progress of the study of malaria. The recent regulations to supply even the most remote hamlets of the kingdom with pure quinin at the lowest rates are due to the exertions of the society. It is now urging legislation to render quinin treatment of malaria obligatory, in certain cases, to prevent fatal pernicious fever. Pamphlets written in a popular style and profusely illustrated are to be distributed among the working-classes.

June 10.

Value of Euchinin in the Prophylaxis of Malaria. A. Mori.—Forty-two laborers in an extremely malarious region were treated with .5 gm. euchinin as a preventive measure, in two doses before meals, daily, and all but 5 escaped malarial infection, that is, all but 11.9 per cent. Of the 47 who did not take the euchinin 39, that is, 82.97 per cent., contracted some form of malarial fever.

June 13.

Mechanical Protection Against Malaria. C. Fermi.—Tests with 104 persons are described, who traveled on foot, sleeping in the open air, through the most pestilential malarial regions of northern Sardinia, protected only by bee-keepers' caps, veils and gloves, during the most dangerous seasons of the year. Not one who wore them faithfully contracted malarial infection, but a few boys who occasionally relaxed the necessary vigilance were prostrated by it.

Centralblatt f. Chirurgie (Leipsic), July 20.

Retrograde Esophagoscopy. C. Hofmann.—A patient who had applied for relief from disturbances traceable to the swallowing of a small nail two years previously, was operated on by an incision in the region of the cardia. Through the fistula thus formed the constriction could be readily dilated from below. It also allowed the introduction of the esophagoscope, which entered for 25 cm. without force. The heart action was noticeably increased but subsided as the patient was reassured. The existence of a diverticulum was thus ascertained, with other important information.

Cure of Phlegmon Consecutive to Perforation of the Esophagus. Von Hacker.—Gastrotomy was done to relieve a woman 37 years of age who had an impermeable stricture of the entire esophagus, resulting from swallowing lye. Before the treatment was completed she was compelled to leave the hospital and returned two months later with the gastric fistula closed. Attempts to eat by the mouth had resulted in perforation of the esophagus and an acute, purulent phlegmon of the mediastinum, in the upper portion of the thorax. A tumblerful of fetid pus was evacuated through a large incision in the neck, with much gas. The cavity was irrigated with a solution of salicylic acid and a strip of gauze was carried down to the deepest point of the cavity which extended from the spine to the sternum, 10 cm. below the jugular. It was drained and the patient kept in the Trendelenburg position, at first. The perforation in the esophagus closed spontaneously the fourteenth day. This was ascertained by inserting a sound covered with a strip of gauze dipped in potassium cyanid, to the bottom of the cavity. The patient then took a swallow of a 2 per cent. solution of citrate of iron and the gauze was stained bright blue for 3.5 cm. from the tip of the sound. This test was positive until the fourteenth day, after which the blue stain failed to appear. The aspirating drainage was maintained for two months, the patient wearing a bottle for the purpose after she left the bed. Five cases of phlegmon of the mediastinum have been operated on by an incision in the neck and three promptly recovered. Von Hacker's first patient was in such an advanced stage of sepsis that the operation was unable to arrest the consequences. Radiograms showed that the cavity was easier of access from the right side, which was the point of the incision. Von Hacker was prepared to make a second incision from the back, lower down, if the first proved insufficient for thorough drainage of the cavity.

Exploratory Excision Through the Esophagoscope. G. Gottstein.—At the Breslau clinic small fragments of dubious tumors have been excised through the esophagoscope 47 times in 34 cases. This procedure is not at all dangerous or inconvenient; the point bleeds but slightly and the excision frequently opens a passage into the stomach and thus relieves the patient. Gottstein uses a special forceps for the excision. In 29 cases the microscope showed a carcinoma, in 3 an adenoma, in 1 a peptic ulcer and in 1 actinomycetic infection of a gland.

Resection of the Lung. L. Heidenhain.—The patient was a man of 42 with an extensive suppurating bronchiectasis. The left lower lobe of the lung was disseminated with multiple abscesses, the upper lobe not suppurating and the other lung sound. The resection of the lower lobe produced a remarkable improvement in the patient's general condition. There was considerable hemorrhage, controlled by clamps. Cicatrization was promoted by fragments of lung tissue adherent to the walls of the cavity. Seven months after the operation the cavity was lined with bronchial mucosa. The fistula was still secreting a muco-purulent fluid mostly derived from the open bronchi, which required cleansing twice a day. A carcinomatous nodule was found in the resected tissue. The patient died nearly eight months later—cause unknown.

Bone Charcoal After Operations for Local Tuberculosis. A. Fraenkel.—Bone charcoal is as effective as iodoform in promoting the healing of wounds after operations on account of local tuberculosis. It can be used as a powder or in a glycerin emulsion. Fraenkel recommends the former, and believes that the proliferation of tissue induced by the mechanical action of the powder gives it an indirect bactericidal influence, similar to the action of iodoform.

Pure Carbolic Acid for Septic Wounds. Von Bruns.—Phelps' method of treating wounds with pure carbolic acid is highly commended by Bruns, who endorses it after much clinical and experimental research.

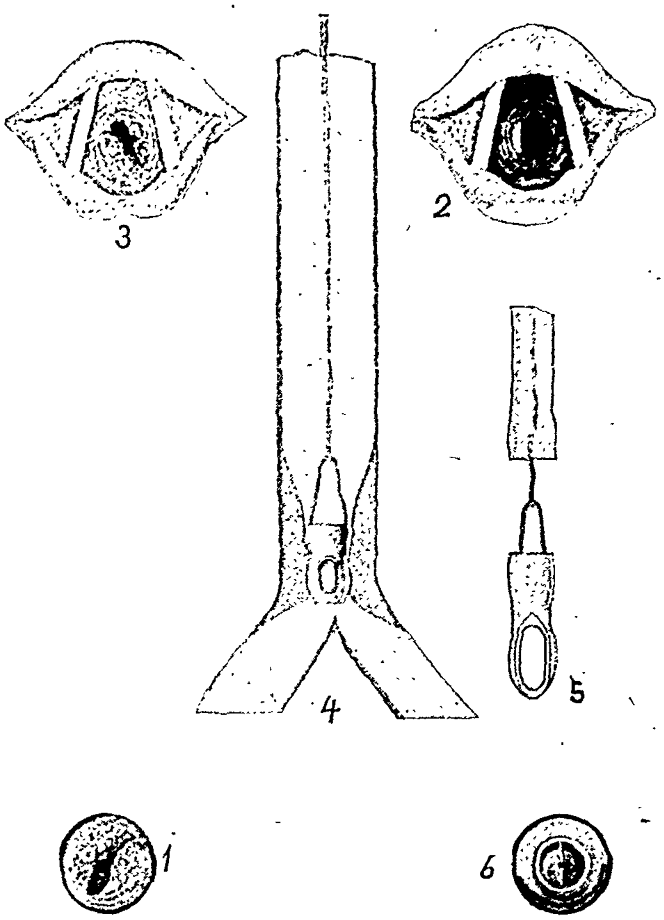
Post-Operative Pneumonia. Stolper.—Fat embolism of the lungs is a factor in the production of post-operative pneumonia which has not yet been sufficiently regarded. Stolper found extensive fat embolism in the lungs of an elderly woman who died eight hours after a laparotomy to relieve ileus from gallstones.

Remote Results of Castration for Tuberculosis of the Testis. Von Bruns.—Reviewing 111 cases treated at Tübingen during the last fifty years, Bruns finds that 46 per cent. of the patients treated by unilateral castration have been cured for from three to thirty-four years, and that 56 per cent. of the patients treated by bilateral castration have been cured for three to thirty years. One-half of all the castrated patients were permanently cured. In all of these the tuberculosis was restricted to the genital organs. Almost all have died who had tubercular lesions of the urinary or other organs.

Deutsche Med. Wochenschrift (Berlin and Leipsic), July 11.

Cinnamic Acid and Igazol in Experimental and Clinical Tuberculosis. M. Wolff.—Numbers of guinea-pigs infected with tuberculosis were treated with cinnamic acid and other groups with igazol. Neither treatment had any influence on the development of the infection, which progressed the same as in the control animals, and the anatomic lesions were identical when killed after several months of treatment or the animals died spontaneously. Similar negative results were obtained in 42 patients treated with cinnamic acid and in 27 treated with igazol.

Treatment of Deep Stenosis of the Trachea. H. von Schroetter.—The accompanying illustrations show the benefits derived from direct bronchoscopy and the application of a mechanical device to dilate tracheal stenosis. The patient was a woman of 47 with a primary tubercular constriction of the trachea, shown in Fig. 1, as observed by bronchoscopy, 23 cm. below the teeth. The stenosis was curetted and treated with lactic acid, securing the result seen in Fig. 2. The constriction recurred, however, Fig. 3, and with recurring bronchitis threatened danger of suffocation. To remedy this Schroetter inserted under bronchoscopy the device shown in Figs. 4, 5 and 6. It was made of German silver as a certain weight—4 gm.—was necessary to facilitate its insertion and maintain it in place; the polished surface offered less friction to secretions than rubber, and it cast a distinct shadow in radiograms. The thread was fastened outside of the mouth. The relief was so great that the patient clamored for the dilatation. The tube was left in place for seventy hours in the course of twenty-one days, an average of a little more than three hours a day. It fitted so perfectly that a slight effort was necessary to draw it out, and even the most violent coughing failed to dislodge it. The tube was 18 mm. long. and 10 to 12 mm. in diameter. The patient was seen for the first time in July, 1900. The systematic dilatation occurred in January, 1901, during three weeks and the patient has since been free from all disturbances from stenosis, and there have been no symptoms of irritation or decubitus from the compression of the dilator. This method of



treatment would probably prove efficient in scleroma of the trachea, post-syphilitic cicatricial formations or traumatic stenosis after tracheotomy with struma, of which Schroetter has recently had occasion to observe a case.

Muenchener Med. Wochenschrift, July 9.

Septic Endocarditis. LENHARTZ.—Four recovered out of 38 cases of septic endocarditis at the Hamburg General Hospital, and 1 patient is still under treatment. In 22 cases the endocarditis was acute, lasting from four days to eight weeks, eleven days being the average of 18 cases. In 16 cases the disease assumed a chronic course of between three and seven months. Few physicians are aware of the fact that septic endocarditis can run such a protracted course. In Huebner's wide experience he has seen but 4 chronic cases, the duration ranging from four to nine months. In 12 patients there were evidences of old valvular defect, but in 2 of these the recent extensive vegetations were at points remote from the old, once at the aorta and once at the tricuspid. In 3 other cases of severe sepsis, the blood swarming with streptococci during life and innumerable metastases, in spite of old, extensive endocarditis, there was no trace of recent valvular lesions. In 11 cases the fatal endocarditis followed an injury of the urethra, in 7 from the introduction of a catheter, bougie or something of the kind and in 4, fresh gonorrheal lesions. In 5, it followed the puerperium, in 5 croupous pneumonia and in 2 each, angina and cholecystitis with inflammation of the portal vein. Loeb has recently collected 62 cases of endocarditis after gonorrhea, including a number of recoveries. Lenhartz observed one case—a housemaid 16 years old—with violent, acute gonorrhea for eight weeks, when suddenly severe general symptoms appeared, dyspnea and oppression in the cardiac region with an unusually loud systolic and diastolic murmur at the base of the heart, chills and intermittent fever. Gonococci were still numerous in the secretions. The abnormal murmurs disappeared on the tenth day and patient recovered. In another, a fatal case, the autopsy after eight weeks' illness with high, intermittent fever, chills and abrupt changes in the temperature of 4 to 5 degrees C., showed extensive ulcerative endocarditis of the pulmonary valves from which pure cultures of the gonococcus were derived. In one of the 5 cases of endocarditis subsequent to croupous pneumonia, the patient, a woman of 54, had apparently recovered from the pneumonia by the eleventh day, although pneumococci had been found in the blood the seventh day. After five days of almost normal temperature and two days of the prodrome, a severe chill was followed by fever of 40.6 C. and a loud heart murmur was audible above the sternum. The autopsy revealed an ulcerative endocarditis of the tricuspid with enormous thrombotic deposits and fresh suppurative meningitis. Pure cultures of pneumococci from the blood developed 1000 to 2000 colonies in 1 c.c. In 3 other cases the endocarditis followed a non-febrile period of two to five days. The patients were all between 48 and 54 years of age. Bacteriologic investigation of 28 cases disclosed the staphylococcus in 8, the pneumococcus in 9, the streptococcus in 10 and the gonococcus in 1, as the cause of the endocarditis. In the chronic cases, the blood showed the same bacteria each time, after intervals of two to four weeks, the number of colonies ranging from 68 to 450 in one case consecutive to the puerperium, from 98 to 276 in another, consecutive to a mechanical injury of the urethra, and from 75 to 2000 colonies of the streptococcus parvus in a case consecutive to angina. The streptococcus parvus was found six times. Anemic and suppurative infarcts may coincide even in the same organ and consequently do not differentiate any special infection, but if the above-mentioned bacteria are found in the blood, the septic character of the infection is established, while their absence classifies the endocarditis as of rheumatic origin. In genuine rheumatism the investigation of the blood and joint effusions has always been negative, but the symptoms indicate a specific agent. Pseudo-rheumatism may be induced by various germs and complicate numerous diseases, scarlet fever, diphtheria, etc., but has nothing to do with genuine rheumatism. In chronic septic endocarditis the affection commences occasionally with a chill, but more often with merely general depression and fatigue in the limbs. Circumscribed pains are at times noted in the vicinity of the joints, aponeuroses and similar points. The illness of the subject early impresses those around him, but he may resist the increasing prostration until chilliness or severe erratic chills, with violent fever compel him to keep his bed. The pallor, enlargement of the spleen, heart murmurs and general appearance are the only objective signs that can be detected except the frequent retinal hemorrhages.

Rheumatic Exanthemata. M. BEHREND.—Several cases are described to establish Behrend's theory that articular rheumatism—personal or the inherited tendency—induces a predisposition to exanthemata and enanthemata. Multiform erythema exsudativum is frequently accompanied by swelling or pains in the joints. In these cutaneous affections the salicylates are indicated on account of their favorable influence on the rheumatic soil. The tendency to recurrence renders the prognosis unfavorable.

Inexpensive Asepsis in the Operating Room. A. HAMMESFAHR.—By banishing sponges, catgut, silk and wire, great saving in the expense of supplies for the operating room, and also in time, is effected. Gauze takes the place of sponges, and the inexpensive celloidin thread is superior in every respect to catgut and silk, and even to wire. Many dangers are avoided and much time saved if the principle is strictly enforced that the hands are never allowed to come in contact with septic matters. Instruments should be used to handle infected dressings, etc. Hammesfahr adds that he has performed 126 major aseptic operations in the last six months in a single small operating room in which he operates also for phlegmons, empyema, gall-bladder infections, etc., and has not had a single case suppurate.

Remote Results of Extirpation of the Gasserian Ganglion. F. KRAUSE.—Krause reports twenty-seven patients treated for excruciating trigeminal neuralgia by extirpation of the Gasserian ganglion. All were between 47 and 72 years of age, except two who were 30 and three between 41 and 46. In several the neuralgia had lasted for twenty-two years, and suicide seemed the only relief. All have been completely cured, without a twinge of the neuralgia since. The first six cases were operated on in '93. Ligature of the middle meningeal artery requires but a few seconds, while it affords much better chances for success and the avoidance of complications. The length of the operation depends on the hemorrhage—in one case it prolonged the operation for three hours. The average time was one and one-quarter hours, but some were completed in twenty, twenty-five and thirty-three minutes. If the bone is sacrificed, fifteen minutes are saved, and this is important in much debilitated patients. Three patients died, one from collapse in a few hours, an elderly woman, much debilitated and a sufferer from chronic nephritis. The second death occurred six days after the operation, the patient a man of 72 with pronounced arteriosclerosis and irregular heart action which had compelled the postponement of the operation. The wound was healing smoothly and the death occurred from heart failure. No cause could be discovered for the third death which occurred twenty days after the operation, a woman of 72, the wound healing normally. In all the patients a portion of the trigeminus had been previously resected with transient, if any, effect on the neuralgia. The resulting lagophthalmus rendered the condition unfavorable for the later operation and caused trouble in a few cases, but he found that corneal ulcers and even severe hypopyons may finally heal. To prevent paralysis of the lower lid, Krause incises parallel with the fibers of the facial nerve. The cornea has to be protected only for the first few weeks. In several cases neuralgic pains have appeared in the other side, but the only sensory disturbances on the side of the operation are occasional twitchings and itching, with a rare, brief burning sensation. Two patients complained of the absence of sensation in the half of the mouth and tongue as a hindrance to mastication. In one case a mental disturbance was cured by the operation. In all cases in which the neuralgia is of a hysteric or neurasthenic nature Krause refuses to operate. The details of each case are described in full in the article which is concluded from the two preceding numbers.

Queries and Minor Notes.

AIR EXHAUSTION OF PLEURAL CAVITY IN EMPYEMA.

Minneapolis, Minn., July 23, 1901.

To the Editor:—If W. E. P., of Kansas City, will turn to page 1026, Volume II, Bryant's Operative Surgery, he will find a description of the pleural air-pump apparatus he seeks.

Very truly yours, W. M. Beck, M.D.

OXYDONOR.

Staples, Minn., July 25, 1901.

To the Editor:—What is an "Oxydonor?" I know that it is not new It is being sold by local agents about here, and I have been asked what it is. I know what they say it is, but want to know what it really is. Has it any virtues or is it pure faith cure? I never saw the instrument. Yours truly,

F. H. Knickerbocker, M.D.

Ans.—Dr. N. C. Morse, Eldora, Iowa, in an article in The Journal of Dec. 1, 1900, page 1404, entitled "Modern Empirical Inventions," exposes the make-up of three quack inventions, the "electropoise," "oxydonor victory" and the "*oxygenor* king." There are several of these fakes on the market, and the number is rapidly increasing. as the people are still emphasizing the truth of Barnum's oft-quoted statement.

GOD AND THE DOCTOR.

St. Paul, Minn., July 28, 1901.

To the Editor:—On page 294 of your issue of July 27, you discuss the authorship of the familiar lines beginning: "God and the Doctor we alike adore." The original Latin epigram which you quote was written by Euricius Cordus, of Simmershausen, in Hesse, who was born in 1486, was professor of medicine in Marburg about 1520, and died in Bremen in 1534. It is known of him that he was an eminent physician and a popular teacher of medicine. He introduced the term "Scharbock" (scorbutus, scurvy) into the German language. His son, Valerius Cordus, was also a successful physician, and was the author of the first German pharmacopeia, the printing and introduction of which into the pharmacies of Nuremberg was authorized by the senate of that city in 1535. The following is still another translation of the epigram:

"Three faces wears the Doctor: When first sought,
An angel's—and a God's, the cure half wrought—
But when, the cure complete he seeks his fee,
The Devil seems then less terrible than he."

An amusing story illustrative of the sentiment expressed in this epigram, in more recent times, is related by Pettigrew: M. Bovart had been attending during a long and sever illness a certain French marquis; one morning during the patient's convalescence, the following conversation took place: "Good day, Monsieur Bovart," said the marquis, "I feel quite in spirits to-day; I think my fever has left me." "I am sure of it," replied the doctor; "your first remark has quite convinced me of it." "Explain yourself," said the marquis. "Nothing more easy," said the doctor. "In the first days of your illness, when your life was in danger, I was 'your dearest Bovart'; as you began to get better I was your 'good Bovart'; this morning I am plain 'Monsieur Bovart'; depend upon it, you are quite recovered." Yours very truly,

Burnside Foster, M.D.

Dr. W. L'Heureux Blenkarne sends another translation of the verse to the *British Medical Journal.* This translation was made by Dr. Moxon and printed in his introductory lecture delivered at Guy's Hospital, in 1868. Dr. Moxon's version is as follows:

"God and the doctor they alike adore
Just in the hour of danger and no more,
The danger o'er, both are alike requited:
God is forgotten, and the doctor slighted."

CODE OF HEALTH OF SALERNUM.

Muncie, Ind., July 31, 1901.

To the Editor:—Can you tell me where I can get Dr. Ordronaux's "Code of Health of the School of Salernum?" C. W. H. K.

Ans.—We do not know the publisher, but believe it was printed for private circulation. Address Dr. John Ordronaux, Roslyn, Queens Co., N. Y.

TREATMENT OF TUBERCULOSIS.

Scranton, Pa., Aug. 3, 1901.

To the Editor:—Can you inform me concerning the Nordrach treatment for Tuberculosis as spoken of by R. Mander Smyth, in a late edition of The Journal? R. B. M.

Ans.—The Nordrach method is essentially an open-air treatment with regulated diet. exercise and rest. The method is largely educational, teaching what can be practiced elsewhere. The personality of the superintendent, Dr. Walther, is an important factor.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., July 18 to 24, inclusive:

Frank E. Artand, major and surgeon, Vols., honorably discharged from the service of the United States, to take effect July 31, 1901.

Percy M. Ashburn, lieutenant and asst.-surgeon, U. S. A., from Fort Sheridan, Ill., to duty at Fort Assinniboine, Mont.

Charles N. Barney, lieutenant and asst.-surgeon, U. S. A., recently appointed and now at Key West, Fla., will report for temporary duty to the commanding officer of that post.

William H. Brooks, lieutenant and asst.-surgeon, U. S. A., recently appointed, is relieved from further duty in the Department of California and will proceed to Fort St. Michael, Alaska, for duty at that post.

Charles Y. Brownlee, lieutenant and asst.-surgeon, U. S. A., recently appointed, and now at Benicia Barracks, Cal., will report for temporary duty to the commanding officer of that post.

Robert Burns, major and surgeon, Vols., now at Plymouth, N. J., will, upon the expiration of his present leave of absence, proceed to San Francisco, Cal., en route to duty in the Division of the Philippines.

Robert E. Caldwell, captain and asst.-surgeon, Vols., leave of

captain and asst.-surgeon, Vols., recently
Meade, S. D., to San Francisco, Cal., en route
to the Division of the Philippines.

William H. Chambers, contract dental surgeon, from Montgomery, Ala., to Fort Monroe, Va., for duty at that post.

William D. Crosby, major and surgeon, U. S. A., leave of absence granted.

Robert J. Gibson, major and surgeon, U. S. A., member of a retiring board at San Francisco, Cal.

Abram L. Haines, major and surgeon, Vols., leave of absence granted.

John D. Hall, lieut.-col., deputy surgeon-general, U. S. A., member of a retiring board at San Francisco, Cal.

Edwin P. Hayward, captain and asst.-surgeon, Vols., is honorably discharged, to take effect July 18, 1901.

George P. Heard, lieutenant and asst.-surgeon. U. S. A., recently appointed, and now at Fort McPherson, Ga., will report to the commanding officer of that post for temporary duty.

Lloyd LeR. Krebs. lieutenant and asst.-surgeon. U. S. A., recently appointed, will proceed from Kansas City, Mo., to Fort Leavenworth, Kan., for temporary duty.

Milton E. Lando, lieutenant and asst.-surgeon, U. S. A., now at San Francisco, Cal., is assigned to temporary duty at the Presidio of San Francisco.

Arthur M. Lee, lieutenant and asst.-surgeon, U. S. A., recently appointed, from Marion, Ind., to temporary duty at Ft. Sheridan, Ill.

Franklin A. Meacham, major and surgeon, Vols., having tendered his resignation, is honorably discharged, to take effect July 19, 1901.

John A. Murtagh. lieutenant and asst.-surgeon, U. S. A., recently appointed and now at the Presidio of San Francisco, Cal., is assigned to temporary duty at the general hospital at that place.

Kent Nelson, lieutenant and asst.-surgeon, U. S. A., recently appointed, is assigned to temporary duty in the U. S. General Hospital. Washington Barracks, D. C.

Roderick P. O'Connor, lieutenant and asst.-surgeon, U. S. A., recently appointed, to proceed from Winchester, Va., to Fort Myer, Va., for temporary duty.

Robert M. O'Reilly, lieut.-col., deputy surgeon-general, member of a board at Fort Monroe, Va., to formulate a general scheme of construction and improvement at that post.

Robert U. Patterson, lieutenant and asst.-surgeon, U. S. A., recently appointed, from Baltimore, Md., to Fort McHenry, Md., for temporary duty.

George R. Plummer, captain and asst.-surgeon, Vols., relieved from further duty in the Department of Cuba, and, on the expiry of his present leave of absence, to proceed to San Francisco, Cal., en route to the Division of the Philippines.

Adrian S. Polhemus, major and surgeon, U. S. A., member of a retiring board at Fort Leavenworth, Kan.

Ralph S. Porter, major and surgeon, Vols., leave of absence granted.

Charles Richard, major and surgeon, U. S. A.. member of a retiring board at Fort Leavenworth, Kan.

Robert Smart, lieutenant and asst.-surgeon, U. S. A., recently appointed, from New York City, to Fort Monroe, Va., for temporary duty.

Verge E. Sweazey, lieutenant and asst.-surgeon, U. S. A., recently appointed, to proceed from Sabinsville, Pa., to Fort Columbus, N. Y., for temporary duty.

C. L. Sweet, contract surgeon, leave of absence from the Department of the Columbia extended.

Hugh G. Voorhies, contract dental surgeon, now at Mt. Vernon, Mo., will proceed to Governor's Island, N. Y., en route for duty at San Juan, District of Porto Rico.

Eugene R. Whitmore, lieutenant and asst.-surgeon, U. S. A., recently appointed, from Chicago, Ill., to Fort Sheridan, Ill., for temporary duty.

Compton Wilson, lieutenant and asst.-surgeon, U. S. A., is honorably discharged from service as captain and asst.-surg., Vols., only.

Halsey L. Wood, contract surgeon, now at Washington, Conn., to proceed to Seattle, Wash., for duty on the transport *Rosecrans.*

William P. Woodhull, lieutenant and asst.-surgeon, U. S. A., recently appointed, and now at Fort Clark, Texas, will report for temporary duty to the commanding officer of that post.

Appointments, Promotions, Retirements, Etc.,

Of commissioned officers of the Medical Department of the Army.

During the month ending July 15, 1901, the following changes in the status of medical officers of the regular and volunteer forces were reported from the Adjutant-General's Office, War Department, Washington, D. C. Previous changes of this character were reported in The Journal, of July 13, 1901:

REGULAR ARMY—APPOINTMENTS.

To be assistant surgeons, with the rank of first lieutenant, June 29:

Henry H. Rutherford, of Missouri.
Charles C. Geer, of Georgia.
Ernest L. Ruffner, of New York.
William H. Brooks, of North Carolina.
Charles N. Barney, of Massachusetts.
Compton Wilson, of Maryland.
John A. Murtagh, of Pennsylvania.
Eugene R. Whitmore, of Wisconsin.
Patrick H. McAndrew, of Pennsylvania.
Charles Y. Brownlee, of California.
Milton E. Lando, of California.
George M. Ekwurzel, of Pennsylvania.
Gideon McD. Van Poole, of North Carolina.
Irvine W. Patton, of Alabama.
William W. Reno, of Michigan.
Carroll D. Buck, of Minnesota.
George H. R. Gosman, of New York.
Conrad E. Koerper, of the District of Columbia.
John H. Allen, of Tennessee.
Robert U. Patterson, of Maryland.
Roderic P. O'Connor, of Pennsylvania.
William Roberts, of ———.
George P. Heard, of Alabama.
Robert E. Noble, of Alabama.
James W. Van Dusen, of Ohio.
Roger Brooke, Jr., of Maryland.
Wallace De Witt, of ———.
Albert B. Henderson, of Michigan.
Robert M. Thornburgh, of New Hampshire.
Robert B. Grubbs, of Virginia.
Edmund D. Shortlidge, of Delaware
Arthur M. Line, of New York.
Verge E. Sweazey, of Pennsylvania.
Matthew A. DeLaney, of Pennsylvania
Horace D. Bloombergh, of Pennsylvania.
John R. Devereux, of the District of Columbia.
Paul S. Halloran, of Pennsylvania.
Kent Nelson, of Minnesota.
Peter C. Field, of New Jersey
Herbert G. Shaw, of California.
Robert Smart, of New York.
Louis Brechemin, Jr., of Pennsylvania.
Lloyd LeR. Krebs, of Iowa.
William P. Woodall, of Texas.
Clement C. Whitcomb, of Maine.

For the purpose of retirement:

Nathan P. Jarvis, late captain, asst.-surgeon, U. S. A., to be asst.-surgeon, with the rank of captain, June 29, 1901.

VOLUNTEERS—APPOINTMENTS

Richard S. Griswold, of Connecticut, to be surgeon, with the rank of major, June 4, 1901.

Frank E. Artaud, of Louisiana, to be surgeon, with the rank of major, June 6, 1901.

Robert E. Caldwell, of Virginia, to be asst.-surgeon, with the rank of captain, June 19, 1901.

Paul Mazzuri, of Louisiana, to be asst.-surgeon, with the rank of captain, June 19, 1901.

Allen J. Black, of Virginia, to be asst.-surgeon, with the rank of captain, July 1, 1901.

PROMOTIONS.

Thirty-eighth Infantry—Captain George L. Hicks, Jr., asst.-surgeon, to be surgeon with the rank of major, May 11, 1901.

Fortieth Infantry—Captain Edward A. Romig, asst.-surgeon, to be surgeon, with the rank of major, May 10, 1901; First Lieutenant William J. Boyd, asst. surgeon, with the rank of captain, May 10, 1901.

HONORABLY DISCHARGED.

Major Samuel T. Armstrong, surgeon, June 30, 1901.
Major Herbert W. Cardwell, surgeon, June 30, 1901.
Major Wilfrid Turnbull, surgeon, June 30, 1901.
Major William B. Winn, surgeon, June 30, 1901.
Major Frank H. Titus, surgeon, June 30, 1901.
Major Henry C. Fisher, surgeon, June 30, 1901.
Major Eugene L. Swift, surgeon, June 30, 1901.
Major John S. Kulp, surgeon, June 30, 1901.
Major Frederick P. Reynolds, surgeon, June 30, 1901.
Major Merritte W. Ireland, surgeon, June 30, 1901.
Major William F. Lewis, surgeon, June 30, 1901.
Major Paul Shillock, surgeon, June 30, 1901.
Major Alexander N. Stark, surgeon, June 30, 1901.
Major Powell C. Fauntleroy, surgeon, June 30, 1901.
Major Charles Wilcox, surgeon, June 30, 1901.
Major Henry A. Shaw, surgeon, June 30, 1901.
Major George W. Mathews, surgeon, June 30, 1901.
Major John Carling, surgeon, July 3, 1901.
Captain James J. Erwin, asst.-surgeon, June 30, 1901.
Captain Charles E. McDonald, asst.-surgeon, June 30, 1901.

DISCHARGED ON ACCOUNT OF MUSTER-OUT OF REGIMENTS.

Major Henry D. Snyder, surgeon, 43d Infantry, June 30, 1901.

Captain Dudley W. Welch, asst.-surgeon, 43d Infantry, June 30, 1901.

Major Joseph T. Clarke, surgeon, 4th Infantry, June 30, 1901.

Major Charles F. Kieffer, surgeon, 48th Infantry, June 30, 1901.

COMMISSIONS VACATED BY NEW APPOINTMENTS.

Major Thos. U. Raymond, surgeon, 40th Infantry, May 10, 1901, by appointment as major and surgeon, U. S. *Vols. (act Feb. 2, 1901).*

Major Wm. D. Bell, surgeon, 42d Infantry, May 18, 1901, by appointment as major and surgeon, U. S. Vols.

Major Lawrence C. Carr, surgeon, May 31, 1901, by appointment as major and surgeon, U. S. Vols.

Captain Simon J. Fraser, asst.-surgeon, June 14, 1901, by appointment as major and surgeon, U. S. Vols. (act Feb. 2, 1901).

Captain Howard A. Grube, asst.-surgeon, June 17, 1901, by appointment as major, surgeon, U. S. Vols. (act Feb. 2, 1901).

MUSTERED OUT OF THE SERVICE.

Major Abram L. Haines, surgeon, 31st Infantry, June 18, 1901.

Major George L. Hicks, surgeon, 38th Infantry, June 30, 1901.

Major Edward A. Romig, surgeon, 40th Infantry, June 24, 1901.

Captain Wm. J. Boyd, asst.-surgeon, 40th Infantry, June 24, 1901.

Captain Thomas R. Marshall, asst.-surg, 41st Infantry, July 3, 1901.

Lieutenant Edward J. Barrett, asst.-surgeon, 41st Infantry, July 3, 1901.

Major Charles L. Forbush, surgeon, 44th Infantry, June 30, 1901.

Captain Charles M. Galbraith, asst.-surgeon, 47th Infantry, July 2, 1901.

Captain William P. Purnell, asst.-surgeon, 48th Infantry, June 30, 1901.

Major Robert Burns, surgeon, 49th Infantry, June 30, 1901.

Captain William C. Warmsley, asst.-surgeon, 49th Infantry, June 30, 1901.

Lieutenant Joseph H. Carroll, asst.-surgeon, 49th Infantry, June 30, 1901.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending July 27, 1901:

Asst.-Surgeon E. O. Huntington, detached from the *Newark* when placed out of commission, and ordered home to wait orders.

Surgeon C. F. Stokes, ordered to the *Oregon*, immediately.

Surgeon P. Leach, detached from the *Oregon*, upon reporting of relief, and ordered home to wait orders.

P. A. Surgeon A. Farenholt, detached from the *Oregon*, and ordered home to wait orders.

Surgeon G. T. Smith, detached from the *Mayflower*, when put out of commission, and ordered home to wait orders.

P. A. Surgeon D. N. Carpenter, detached from the Naval Hospital, Chelsea, Mass., and ordered to the *Franklin*.

Asst.-Surgeon B. R. Richardson, detached from the Naval Hospital, Newport, R. I., and ordered to the Naval Hospital, Chelsea, Mass.

Asst.-Surgeon J. B. Whiting, resignation accepted to take effect from August 3, 1901.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended July 27, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

Alaska: Juneau, July 3, 9 cases.

California: Los Angeles, July 6-13, 1 case; San Francisco, July 7-14, 1 case.

Illinois: Chicago, July 13-20, 1 case.

Louisiana: New Orleans, July 13-20, 1 case.

Massachusetts: Boston, July 13-20, 2 cases; Fall River, July 13-20, 1 death.

Michigan: Detroit, July 13-20, 1 case.

Minnesota: Minneapolis, July 7-20, 6 cases; Winona, July 6-13, 1 case.

New Jersey: Jersey City, July 14-21, 2 cases; Newark, July 14-20, 8 cases.

New York: Elmira, July 6-13, 2 cases; New York, July 13-20, 35 cases, 12 deaths.

Ohio: Cleveland, July 13-20, 1 case.

Pennsylvania: July 13-20, Lebanon, 1 case; Philadelphia, 4 cases, 1 death.

Tennessee: Memphis, July 13-20, 1 case.

Utah: Salt Lake City, July 13-20, 1 case.

Washington: Tacoma, July 7-14, 1 case.

Wisconsin: Milwaukee, July 13-20, 1 case.

Philippines: Manila, May 25-June 15, 8 cases.

SMALLPOX—FOREIGN.

Austria: Prague, June 29-July 6, 4 cases.

Belgium: Antwerp, June 29-July 6, 2 cases, 1 death.

China: Hongkong, June 8-22, 4 cases, 3 deaths.

Colombia: Panama, July 8-15, 4 cases.

France: Paris, June 29-July 6, 10 deaths.

Great Britain: Glasgow, July 5-12, 5 cases, 1 death; Liverpool, June 29-July 6, 1 case; London, June 29-July 6, 6 cases.

India: Calcutta, June 15-22, 6 deaths.

Japan: Nagasaki, June 21-30, 1 case.

Italy: Messina, June 29-July 6, 21 cases, 1 death.

Netherlands: Rotterdam, July 6-13, 4 cases.

Russia: Moscow, June 22-29, 11 cases, 1 death; Odessa, June 29-July 6, 2 cases; Warsaw, June 15-22, 6 deaths.

Spain: Corunna, June 29-July 6, 1 case.

[illegible] Singapore, June 1-8, 1 death.

[illegible] June 22-29, 1 case.

[illegible] e 8-15, 1 death.

Uruguay: Montevideo, May 25-June 8, 49 cases, 3 deaths.

YELLOW FEVER.

Mexico: Vera Cruz, July 6-13, 3 cases, 2 deaths.

Salvador: San Salvador, June 20, present

CHOLERA.

India: Bombay, June 18-25, 3 deaths; Calcutta, June 15, 37 deaths.

PLAGUE—UNITED STATES AND INSULAR.

[illegible] San Francisco, July 6-11, 5 cases, 4 deaths.

[illegible] uly 6, 1 death.

[illegible] May 25-June 15, 57 cases, 43 deaths.

PLAGUE—FOREIGN.

Africa: Cape Town, to June 29, 749 cases, 341 deaths; Maitland, June 9-15, 2 cases; Port Elizabeth, June 9-15, 3 cases; Simonstown, June 9-15, 1 case.

China: Amoy, May 25-June 1, 700 deaths; Hongkong, June 8-22, *306 cases, 303 deaths.*

India: Bombay, June 18-25, 62 deaths; Calcutta, June 1-22, 22 deaths.

Japan: Yamanashi Ken, July 5, 1 case.

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Original Articles.

ELECTRO-THERMIC HEMOSTASIS IN ABDOMINAL AND PELVIC SURGERY.*

ANDREW J. DOWNES, A.M., M.D.
GYNECOLOGIST TO ST. MARY'S HOSPITAL,
PHILADELPHIA.

With the development of aseptic surgery arose the necessity in hemostasis, not only of a certain method of occluding the vessels, but of doing it with an agent which would not add a complication to the case either immediately or remotely. No method of hemostasis generally used fulfills this definition. The use of the actual cautery leaves carbonized tissue, a slough and the danger of subsequent hemorrhage. The objections to silk ligatures, especially the size required for large blood vessels and pedicles in the pelvis, are only too well known. The introduction of sterile absorbable ligatures bid fair to solve the problem; yet we have lately the angiotribe, which is also uncertain, for Doyen and those following him use it now simply to compress a groove in which the animal ligature is applied without danger of its slipping. The angiotribe alone, without the addition of the ligature, is slow and with safety can not be removed much under three minutes. If applied four times in a case nearly a half-hour is consumed, for the time used in removing and applying is considerable. In the shorter process by the angiotribe with the ligature added we retain some of the dangers of the ligature. In the use of the ligature the personal equation is a great and important factor in the results obtained. Yet allowing absolutely perfect technique and sterile material the ligature in an infected field or when thrown around such a body as the appendix or Fallopian tube is especially objectionable. I will make no attempt to cite cases showing the various effects following occasionally the use of ligatures. I will say this: If it is possible to control hemorrhage within the abdomen and pelvis without the use of any extraneous material which remains after hemostasis and by a method which is rapid and fulfills the definition of a perfect hemostatic as given in the beginning of this paper, we have added very materially to the resources of surgeons. Is there any hope of such a possibility? I believe so. As already stated, the angiotribe is slow, and after its use a fair percentage of cases bleed. There is something missing in this instrument, that is, sufficient heat in the compressing blades to cause coagulation of the albuminous constituents of the compressed area. This compressed and coagulated area under the proper amount of heat becomes desiccated. The constituent histological elements, whether blood vessels, nerves or mucous membrane, in the areas so treated lose their identity so that the microscope does not discover them. The only practical method of obtaining heat in the blades in a measurable and controllable form is by electricity. Hence the instruments are electrothermo-hemostatic.

The credit for the introduction of such instruments and methods belongs to the late Dr. Skene. While he gives Keith the credit for having first used heat to the compressing blades of a forceps in the control of hemorrhage, and while he leaned on Keith's experiences, the application of electric heating for this purpose and the development of the first electrothermo-hemostatic instruments was an original procedure with Dr. Skene, and so important a one that with its reduction to the proper degree of practicability it bids fair to at no distant day displace the ligature, especially in the hospital operating room. The introduction of new methods is attended nearly always by imperfect agents. Skene's electrothermic forceps and clamps were a wonderful innovation and a great advance over the crude application of pressure and heat as practiced by Keith. Skene's instruments were open to some objections, which partly accounts for the slowness of their adoption by the surgical world. When I became interested in the subject the two chief objections were that the conducting cord was rubber-covered, interfering with perfect asepsis, and second, the heating medium was not capable of heating sufficiently rapidly the heavier instruments. I decided to use irido-platinum for the heating medium, a ribbon of which an inch and a half long and one-quarter wide was concealed and insulated in one blade of my first forceps. It required a much heavier current than the Skene forceps and gave a more rapid and greater amount of heat. My second improvement was to insulate and inclose in metal the conducting cord, which made a waterproof instrument, capable of standing boiling indefinitely. The Skene instruments have now this improvement. My experience with the various forceps I had made led me gradually to a better understanding of the greatest deficiency in this method of hemostasis for thick surfaces and pedicles, namely, the inability to get sufficient pressure between the blades of any instrument, forceps or clamp, in which unfortified hand pressure alone was used. On more than one occasion, after supplying even more than enough heat to the blade of my forceps, bleeding occurred from some vessels running through the compressed area, after section, requiring re-application of the instrument to these points. Another objection I found to my own early instruments was, that owing to the great resistance of the comparatively large platinum surface the conducting cord became so hot as to heat the whole length of the forceps, and the handle rendering it dangerous when in contact with the tissues and necessitated great care in protecting them. I finally had made an electrothermic angiotribe with the conducting poles emerging at right angles from the proximal portion of the heating blade. This instrument was made with a screw at the end of the handles and with teeth at the end of the blades to prevent recession of the compressed tissues. Both the teeth and the screw were found objectionable. The teeth were removed and the screw replaced by an easily-working lever. Subsequently I modified the lever angiotribe of Doyen into an electrothermic angiotribe with the poles from the heating blade. This is an extremely useful instrument, can be made both light and heavy, and will answer all indications in electrothermic hemostasis, except very small bleeding points, as in the omentum, mesentery, and incisions, for which indications I have devised an artery forceps electrotherm to be presently described.

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* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee of the Section: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

The heating medium in my large forceps and angiotribe is a piece of irido-platinum, one and a quarter to one and a half inches long, three-sixteenths wide and of 24 gauge, and is split down the middle after the fashion of a cautery knife to near the end. This is concealed and insulated in one blade, and with a current of 5 volts and 60 amperes will heat the blade in from twelve to thirty seconds, according to the thickness of the metal forming the blade. By increasing the voltage and amperage within safe limits the heat may be generated more quickly. The longest application with the heaviest instrument need never exceed one minute, including the time of heating. The lighter instruments for occluding the appendix and hemostasing the meso-appendix and isolated points in the broad ligament are affected in from fifteen to thirty seconds. I have found from practical use that the proper degree of heat to be generated in the blade is that which causes a few drops of water placed on it to boil. When this point is reached the current is shut off. This temperature is higher than Skene recommends. It will not char or burn the tissues. It may not be generally known that a current of steam projected against incised tissue for a few seconds has not interfered with primary union. If we remember that the tissue to be hemostased by the electrothermic method is first compressed and freed from considerable moisture and that the temperature I advocate is exceedingly brief at this point, being dissipated rapidly, it is easy to see that it is safe and that no carbonized tissue will be left. The largest size angiotribe has the blades wide enough to make section through the hemostased area, rendering operations like hysterectomy practically bloodless.

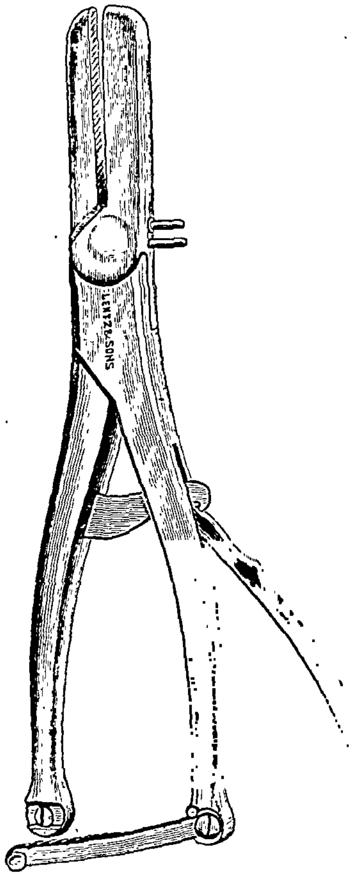
By the use of one angiotribe and one medium forceps with strong compressing blades any major hemostatic problem can be solved. For small vessels, bleeding points in incisions, as in the removal of the breasts, in the omentum, mesentery, or isolated points anywhere that can be grasped by hemostatic forceps, I have devised what I call an artery forceps electrotherm. It consists of a small oblong block of steel hollowed out for the reception of a piece of platinum as a heating medium. My electrotherm heats with the proper current in five seconds. It is grooved to rest against the blades of an artery forceps near the point, to which it transmits heat. I adopt as an artery forceps a straight one like Pean's. The forceps should be straight with a fairly long blade. The electrotherm can be made to accommodate itself to any such forceps. The method of use is as follows: The artery forceps remain on points where pressure is not enough for hemostasis. The electrotherm is applied against the blade as near the point as convenient without touching the tissue, and the current turned on for the few seconds required to obtain the proper heat. The current is turned off, but the electrotherm kept applied about five seconds longer. The electrotherm is then adjusted to another forceps in the same manner, and another, and so on until all the forceps have had their points heated to the proper degree and all hemorrhage is controlled. During this procedure everything except the points to be hemostased are protected. On the removal of the forceps small white agglutinated and desiccated spots mark the site of the former bleeding points. The quantity of agglutinated material in these spots is very much less in bulk than the catgut which ordinarily would have been used as a ligature; it is not so foreign to the tissue, is perfectly sterile, is not a painful spot, even if a small nerve was included; its lymphatics are closed and it will not interfere with primary union. I have timed a few rapid operators applying ligatures to small bleeding points. The forceps electrotherm enables us to control the bleeding as quickly at least. With greater practice I believe it will be a quicker process.

With the above variety of instruments, the artery forceps electrotherm for small bleeding points, the electrothermic forceps for tissues of moderate thickness, the appendix and so on, and the electrothermic angiotribe for heavy pedicles, the broad ligament, and so on, it is conceivable that the use of ligatures can be entirely dispensed with and operations be performed more quickly and in almost a bloodless manner.

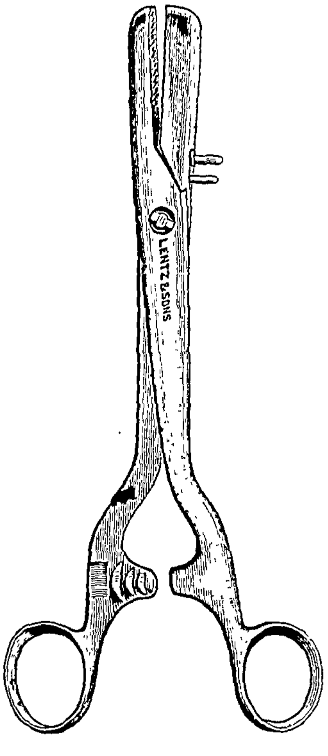
My use of electrothermic hemostasis since my first case has been quite intermittent and the number of cases to be reported is small. The excuse for the paucity of cases is that I have refrained from using this method except occasionally until I could have the instruments in a practically perfect form. I have made a variety of instruments, improving always on the last, all retaining a common feature—rapidly-heating blades. In the beginning, the rendering of the instrument perfectly sterile with the conducting cord metal-covered, and the blade air and water tight, seemed the only requirement. I then had teeth at the end of the blades to prevent recession of the compressed tissue, only to find this a great disadvantage. Ordinary heavy bladed forceps were then found to yield when used on thick pedicles, the Fallopian tube, and so on, and necessitated the introduction of the electrothermic angiotribe. In all, I made seven different instruments before I obtained the proper three. Another reason for not using the method more often is, that owing to the building operations at St. Mary's Hospital and the absence of the electric current, I found it inconvenient to transport and charge a storage battery, and was not always equipped when I might have used the method.

The essentials in this method of hemostasis are, 1, the requisite amount of even pressure between the blades, because with too little pressure even more than enough heat may not control the bleeding; 2, the proper amount of heat, because we must not char or carbonize, and 3, a measurable source of electricity. These three essentials form a unit, and being given there is only one danger, namely, the contact of bowel and other surfaces with the heated blades, which is avoided by using gauze or other means of protection. As to technique, the only other point to mention is that the operating field shall be as dry as possible.

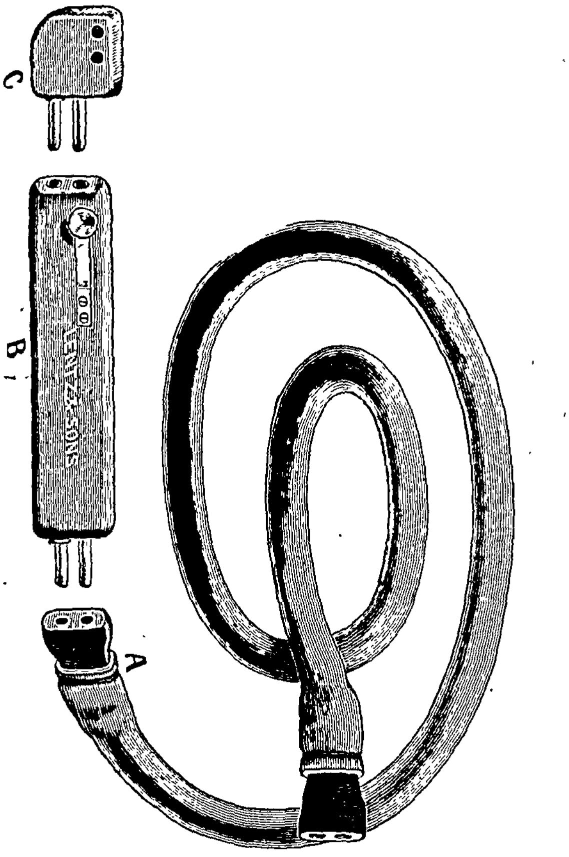
The third essential, a measurable source of electricity, means that it is a dangerous method of controlling hemorrhage without an amperemeter in the circuit. Up to the present I have used storage batteries of two and three cells with a meter attached. As I conceive it, a meter is absolutely essential, because in a procedure that could be so dangerous, mathematical exactness is required. Every piece of platinum in the heat chamber gives the proper temperature to the blade for a certain voltage and amperage in so many seconds. In other words, when our meter registers we know we will have the proper heat in the blade in so many seconds. To exemplify, the heaviest angiotribe, when connected with the strongest current of my two-cell storage battery, which is approximately 5 volts and 60 amperes, will heat in thirty seconds. My three-cell battery when fully charged gives a little over 7 volts and will heat the same blade in twenty seconds. If the batteries are not fully charged the voltage and amperage decreases and the time required for heating is longer. The small electrotherm can be heated in five seconds with a 5-volt current, whereas it can be safely heated in three seconds with a 7-volt current. This means that according to the voltage and amperage the time required to heat a piece of platinum of a certain size varies. The heating time for each instrument with a given voltage current should be known. It is practical knowledge that a surgeon must acquire before using this method of hemostasis. Guess-work is out of place. Our work will only be safe and scientifically correct when we use a meter. Up to the present I have used storage batteries only, and in a hospital having the continuous current, where they can be constantly charged without transporting, they are very easily managed and serviceable. They give always an even current and when equipped with a proper meter and rheostat are free from objections if sufficiently used. Disuse hurts a battery. In place of a storage battery we can have a motor and transformer connected with the continuous current, the only difficulty is whether a meter can be used in connection to register an alternating current of so low a voltage as we require. In the new gynecological operating room just finished at St. Mary's Hospital, I expect to use a transformer, provided the electricians can guarantee a meter in connection. The arrangement of the apparatus in the operating room should be such that the operator has the meter opposite to him. The handle of fiber connecting the cable and instrument should have a current breaker. With a watch in sight the surgeon is thus absolutely in control.



Electrothermic Angiotribe.



Electrothermic Forceps.



Conducting Apparatus.

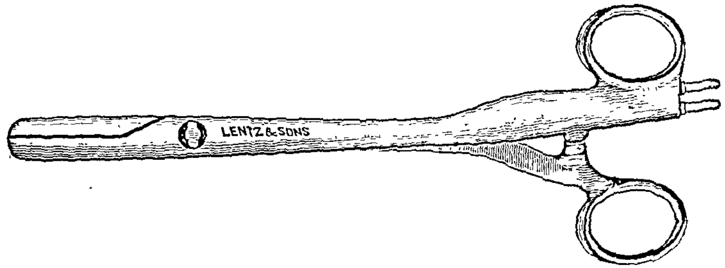
So far reference has been made to the use of these instruments in hemostasis. They are as useful in occluding tubular structures usually requiring ligation, as the vermiform appendix, the Fallopian tubes and the ureter. In dealing with the appendix and the Fallopian tube, if its canal contains pus or is infected, the stump should be left thoroughly sterile and occluded. Tying a ligature around either and sterilizing the exposed end of the stump is not enough. Before sterilizing the exposed stump we have exposed the source of infection and our sterilizing as usually done does not extend through the canal as far as the ligature. The ligature, especially if of silk, may ulcerate through to the infected canal and a localized abscess or infected area result, which often gives much trouble and which perhaps explains some of the secondary effects following in the wake of appendicitis operations. It is chiefly for this reason that many surgeons cut out the head of the appendix and treat the hole in the cecum as an intestinal wound. There is always by this method the danger of contamination, with the intestinal contents and infection. Included in the cases to be reported, the appendix was removed eleven times by the electrothermic forceps as follows: Blades heated in ten seconds or less were applied to the appendix, extending some distance into the meso-appendix, one-third of an inch from the cecum and allowed to remain thirty seconds. Section was made in the compressed agglutinated area near the distal edge, so that no escape of contents was possible. The meso-appendix and its artery are controlled in the same manner and the appendix removed by section through this area. By this method even the scissors that have made the section through the compressed appendix remain sterile and require no special care. In all but three cases I passed a purse-string suture of catgut in the cecum around the head of the appendix, to invaginate and conceal the white, sterile occluded stump. I believe this step is not necessary, but without it the procedure is so radical that with these three exceptions I have refrained as yet from relying on thermic pressure alone. In two cases the purse-string used was of No. 1 catgut, which is perfectly useless as a ligature to the appendix, and proves that heat and pressure alone may suffice.

Case 1.—Mrs. B., age 35; Nov. 20, 1899. Complete prolapse of the vagina, excoriated suspicious cervix. Vaginal hysterectomy electro-forceps.

Case 2.—Mrs. N., age 28; Nov. 23, 1899. Several attacks of appendicitis, adherent retroflexed uterus. Ventro-fixation and then appendectomy by electro-forceps. The stump of the appendix allowed to remain without additional suture.

Case 3.—Miss S., aged 26; Nov. 24, 1899. Appendectomy 36 hours after onset of pain. Appendix swollen to three times the normal, full of pus and becoming gangrenous. Electro-forceps used and section made through the compressed area without escape of pus. Invagination of white desiccated stump by purse-string suture of catgut.

Case 4.—Mrs. D., age 40, Dec. 11, 1889. Removal of left tube and ovary and an old diseased appendix by electro-forceps. Purse-string to stump of appendix.



A special forceps with short blade and poles from end of handle; used for hemostasing isolated arteries or blood vessels the size of the uterine and ovarian. Water will boil on the end of the heating-blade in less than five seconds. Ten seconds is the proper application of a sufficiently heavy current.

Case 5.—Miss X., age 17; Oct. 9, 1900. Inflamed left tube and cystic ovary and varicose veins of the broad ligament, removed by electro-forceps.

Case 6.—Mrs. F., age 40; Oct. 9, 1900. Left tubo-ovarian abscess and diseased appendix. Electro-forceps. Purse-string suture in addition to invaginate stump of the appendix.

Case 7.—Mrs. T., aged 34; Dec. 13, 1900. Polycystic ovarian tumor growing from the right side and large enough to nearly cover the bowel surface. Pedicle and very thick adhesion from the right side of the bladder controlled by electro-forceps. Large appendix during acute attack, the primary object of the operation, removed by electro-forceps, with additional purse-string suture.

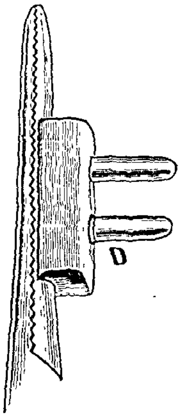
Case 8.—Mrs. O'D., age 49; Dec. 19, 1900. Appendectomy; also hysterectomy for multiple fibroids by electro-forceps. Death in 40 hours. Acute angulation and sepsis from interference with the blood-supply to the cecum and colon. Patient had been moribund for eight weeks with appendicitis five years before and had never been well since. On operating it required 40 minutes to isolate the appendix, so matted and adherent was the bowel. The mesentery near the ileo-colic junction was badly torn during manipulation and a little of the cecum denuded of its peritoneum. Two sutures of catgut were applied in the mesentery to control severe hemorrhage and an attempt was made to cover over the raw surfaces by peritoneum. The electro-forceps were first applied to remove the appendix and then to the sides of the uterus to perform a hysterectomy. The electro-forceps were not placed near the mesentery. On autopsy the cecum and colon were angry black in places for nearly twelve inches and were acutely angulated and septic, due to the interference with circulation. No evidence of hemorrhage. The hemostatic stumps after the hysterectomy were clear and white, as was also the appendix stump.

Case 9.—Mrs. C., age 70; Jan. 11, 1901. Spinal anesthesia; vaginal hysterectomy by electro-forceps.

Case 10.—Mrs. S., age 45; Jan. 29, 1901. Abdominal panhysterectomy by electrothermic angiotribe. Patient had bled almost constantly for two years. She was extremely pale, and had had asthma for several years. She had just recovered from influenza. A fibroid uterus extended to above her umbilicus and bled on the least exertion. This is the first case on whom the electrothermic angiotribe was used. No abdominal pain or the slightest tympany followed the operation. Flatus passed naturally after twenty-four hours and the bowels moved by salines after forty. On the fourth day the temperature suddenly rose, breathing became quick, chest filled, so that on the fifth day there was dulness, friction and higher temperature, and death occurred just after the beginning of the sixth day from pneumonia. An immediate post-mortem of the abdomen revealed an aseptic abdominal cavity. No adhesions, even of the bowel, to hemostatic stumps. The pelvis was perfectly pale and healthy. No carbonized tissue or slough.

Case 11.—Mrs. K., age 48; Feb. 22, 1901. Ventro-suspension and appendectomy, with extra purse-string suture around stump.

Case 12.—Mrs. B., age 29; Feb. 23, 1901. Supravaginal hysterectomy for puerpural sepsis six weeks after labor. Both tubes and ovaries full of pus, with purulent foci in the uterine wall near the cornua. Electrothermic angiotribe.



Electrothermic Attachment for Artery Forceps.

Case 13.—Miss R., aged 49; Feb. 25, 1901. Spinal anesthesia. Liomyoma extending to umbilicus, with complete prolapse of vaginal walls and cervix. Vagino-abdominal panhysterectomy by electrothermic angiotribe. Death on the eighth day after an aseptic course for the six first days. Rupture of the peritoneal reflections shutting off the vagina on the sixth day caused by vomiting a long round worm, and entrance of infection. Postmortem showed perfect hemostasis.

Case 14.—Miss J. S., age 26; April 15, 1901. Appendectomy during an acute attack characterized by severe pain and high fever. Electro-forceps and purse-string suture. No pain in six hours.

Case 15.—Miss S., age 25; April 18, 1901. Appendectomy during acute attack with high fever and severe pain; 7th attack in twelve years. Electro-forceps; additional purse-string suture. No pain in six hours.

Case 16.—Mrs. B., age 25; April 23, 1901. Left ovarian abscess two inches in diameter. Thickened infiltrated broad ligament. Indurated adherent omentum in front of the uterus pressing on the bladder and feeling per vaginam like a fibroid. Left tube and ovarian abscess and portion of the broad ligament removed by electrothermic angiotrobe. Bleeding points in the omentum and on the surface of the uterus, from which it was freed, were controlled by artery forceps against which the electrotherm was placed. The appendix was exposed and found swollen with old adhesions and was removed by electro-forceps and an additional purse-string suture. First case in which artery forceps electrotherm was used.

CASE 17.—Miss M., age 35, May 27, 1901. Had already undergone five operations by eminent surgeons, the original one being for appendicitis. I opened for the third time the original incision, freed many adhesions, finally dug out both tubes and ovaries and removed them by electrothermic angiotribe. The possibility of removing adherent tubes and ovaries through an old right-side incision speaks for the practicability of the method.

CASE 18.—Mrs. B., age 40; May 29, 1901. Intermittent pain in the right side beginning with a septic miscarriage twelve years ago. On section uterus found retroverted and fixed by light adhesions in the right side of the pelvis. Tubes and ovaries healthy except occlusion of the left fimbriated end. Uterus suspended. Cecum found and appendix exposed; adhesions and shortened stumpy appendix with contracted meso-appendix indicated that some of the right-sided pain had been caused by appendicitis. The appendix was twisted so that the meso-appendix could be included in the grasp of the blades of the electrothermic forceps. The current was turned into the blades for twenty seconds, the forceps allowed to remain on for forty seconds and the stump after section allowed to drop into the abdomen. This is the first case that one application of the forceps included the appendix and meso-appendix, and the third in which no additional purse-string suture was applied.

CASE 19.—Application of electrotherm to twenty artery forceps to control twenty bleeding points after removal of the breast by the Halsted method.

CASE 20.—Electrothermic angiotribe to hemostase and remove hemorrhoids. No bleeding and little or no pain followed.

While the number of cases reported here is small, the variety is such as to indicate greater practicability for the method than is generally known. The great success attending the application of sterile ligature material in the hands of men doing a large amount of abdominal surgery, may be used as an argument against its adoption or necessity. The use of so much and so complicated armamentarium, it will be argued, will counterbalance any increased safety as regards secondary hemorrhage. My experience proves it offers many advantages independent of hemostasis. There is much greater freedom from pain following section than after the older operative measures. The three post-mortems made show little or no adhesions of bowel surface to the agglutinated sterile non-adhering stumps. When we consider the great number of cases with intestinal adhesions secondary even to aseptic operative work and the suffering entailed therefrom, there is reason to seek for better methods.

While many men advocate the isolation and ligation of the separate blood vessels and their covering by peritoneum as many others still use mass ligation. There is no comparison in the relative advantages of mass ligation and mass electrothermic pressure. By the latter the stump is painless, non-adherent; its lymphatics are sealed and its mass reduced to the smallest possible bulk. But even isolated arteries, as the ovarian and uterine, may be occluded by this method and more quickly than by ligation. There is no abdominal or pelvic operation or particular method of operating in which the ligature is used that this hemostatic procedure can not be used. It is possible to do hysterectomies almost without seeing blood within the abdominal incision. By using the wide angiotribe we may make section within the compressed area, rendering unnecessary forceps to the uterine sides. In operating then the only blood we need see in the pelvis is where we sever across the cervix. The pedicle of an ovarian cyst may not be even tinged on section. In the removal of each appendix reported no blood was seen. A thin white area near the head of the appendix and in the meso-appendix and section through these areas indicates how it can be bloodless. While I have been timid of leaving the stump without other treatment, with my last instruments, which give the proper pressure, I believe it practicable. Dr. Rosenberger, pathologist of St. Joseph's Hospital, in reporting on an appendix, wrote, "upon microscopic examination the area of the clamped portion shows entire obliteration of the mucous, submucous and muscular coats. The opposite serous coats seemed to be in apposition." This means that an area of homogeneous agglutinated tissue forms the stump.

In conclusion, I wish to state that this paper is a preliminary one. I am only one of the early workers in this field. I have given a great deal of attention and time to the study of the method and the development of the instruments.

DISCUSSION.

DR. FRANKLIN H. MARTIN, Chicago—I congratulate the Doctor upon his paper and his ingenious improvement on the Skene instrument. When Dr. Skene showed me his outfit, I remember the point was made that they were imperfect because they would become exceedingly hot and he forecast these improvements at that time. Combining heat with pressure is certainly an advantage, and the author seems to have accomplished that combination. I think no one will doubt or criticise the conclusions arrived at by the author that this instrument will enable us to accomplish hemostasis anywhere, and that it will enable us to dispense with ligatures, either permanent or absorbable. The short time necessary to heat this instrument possibly would count for something, but I do not believe that even a rapid operator will be able to secure each point in a shorter time than ten seconds.

DR. G. B. MASSEY, Philadelphia—If you consider the physics carefully, you will see that Drs. Skene and Downes have made a mistake in calling this an electrothermic cautery. The fact that a white color follows its use is an important point. Heat applied to the human body never turns the tissues white; it turns them black. It converts the carbon in the body into charcoal. In this instrument we have powerful electrolysis. It probably did not occur to Dr. Skene that he could get so much electrolysis from *only four* volts, but you have 60,000 milliamperes going through the tissues for a second. The laws of physics prove that an electrical current going through moist tissue always causes decomposition. It can not go through by conduction, but by electrolysis. I think Dr. Martin will bear me out in that.

DR. MARTIN—The electricity does not pass through the tissue, as it does not pass from one blade to the other, and therefore you do not get electrolysis. You simply get the heat of the blade.

DR. MASSEY—This may be so, as I have not had an opportunity yet to examine the instrument.

DR. EMIL RIES, Chicago—I was interested by the Doctor's statement that the *application* of this instrument is sufficient to make the tubes impermeable. You remember that when Skene published his book about this electro-hemostasis, he referred to some research I had made on the patency of the tube after salpingectomy. He also made some experiments on the appendix, but unfortunately I never had a chance to see his specimens. The descriptions in the book are incomplete, because he says nothing concerning the condition of the appendix some time after the operation. He mentions that the instrument would be sufficient to close up the tube in a salpingectomy. It is found impossible to close the tube by a ligature of any kind except by folding the peritoneum over the end of it. I should like to have the Doctor tell us about his experiments and the result of his examination of the tubal stump after the use of this instrument.

Dr. Joseph Eastman, Indianapolis—It has occurred to me that possibly the sharp edge on this instrument is an objection because it might cut through tissue and thus produce a hemorrhage. Would it not be better to have the edges rounded, so that the line between the compressed and desiccated and the healthy tissue would not be so abrupt?

Dr. J. Wesley Bovée, Washington—I would like the Doctor to tell us what conditions he has found in these cases after the operation, as regards the presence of adhesions.

Dr. Henry P. Newman, Chicago—It is not necessary to apply the angiotribe for three minutes, as stated by the essayist, if a proper instrument of 3000 pounds pressure is used; one minute is usually sufficient. The instrument is therefore (instead of being a time-consumer) an expeditious means of operating upon the broad ligaments or other soft tissue amenable to its use. That the means of hemostasis has been unsatisfactory is evidenced by the introduction of the ecraseur, the retention forceps, the absorbable suture, and more lately the electric-heat apparatus of Skene, and the angiotribe. All of which are indications that the surgeon wishes to get away from the time-honored conventional ligature. The angiotribe has certain definite indications and when appropriately used will be found most satisfactory. The essayist's instrument seems well adapted to certain selected cases, and I see no reason why it should not prove highly satisfactory, providing the instrument is carefully made and reaches the requisite degree of compression.

Dr. Downes, closing—The electrothermic angiotribe compresses about one-third of an inch of tissue. I have examined it microscopically and found a homogeneous mass, no mucous membrane, no blood-vessel, no nerve. About one-sixteenth inch beyond the compressed end is a *coagulation necrosis* due to extension of the heat. It is a buffer which causes clotting. There is absolutely no evidence of any histological structure in the compressed area. One of the objections to the angiotribe is that it cuts tissue, but we can apply it carefully, and with this method you can apply it slowly, turning on a little heat and then compressing it. If it should crush, you must include the point crushed. That might occur in an extrauterine pregnancy, in softened infiltrated tubes, and, as in a case of puerperal sepsis I had, where both tubes and ovaries and the uterine walls contained pus, six weeks after a septic labor. I used this instrument, cutting right through, but the blood-vessel was in the compressed area. I felt that her recovery was due to the fact that, without ligatures, I had produced a complete hemostasis. There were two essential objections to Dr. Skene's instruments: one was that they did not give enough heat; and the other, not enough pressure. Therefore, it required much time, three minutes, for heavy pedicles. My first instrument was stronger than Dr. Skene's, but at a point near the center it would not compress because the blades did not meet. I used it twice and in the center of the tissue found an artery not compressed. I modified the instruments until I now have them, I believe, nearly perfect.

This method has nothing to do with electrolysis. It has nothing to do with electricity, except as an agent. The electric current goes into the instrument, into a resistant metal, to give heat by the resistance of that metal to electricity. If you can get any other agent that will give heat it will be just as good as the electricity. I do not know of an instance where this instrument will not safely supplant the ligature. I removed a breast by Halsted's method and rapidly hemostased all blood vessels. The insulation is affected by mica. I am rather timid of pressure alone, and, therefore, have not used the cold angiotribe, but I can turn any angiotribe into this apparatus. I have had three deaths, but they had nothing to do with hemostasis. I have performed an autopsy and found the stumps sterile, white and sweet. I am inclined to believe that there is no such thing as adhesion following the stumps left by this method. The point of contact is sealed and exudes nothing that would make it adherent.

An exhibitor of Roentgen apparatus in Berlin developed a typical, chronic x-ray burn on one hand, which recently became gangrenous and the prompt amputation of the entire member was unable to avert the fatal termination.

A NEW OPERATION FOR RETRODISPLACEMENT OF THE UTERUS.*

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The vaginal route for operations on uterus and appendages, aside from hysterectomy, is recognized at present by a large number of gynecologists as a safe and convenient method, and is considered by them preferable to the abdominal route wherever it appears applicable. After long and exhaustive discussions the following advantages may be regarded as peculiar to the vaginal route in preference to the abdominal incision:

1. The vaginal route exposing only a limited portion of the abdominal cavity is less liable to lead to infection or so-called shock.
2. The vaginal route, requiring no exposure or handling of intestines or omentum or parietal peritoneum to any extent, avoids the post-operative troubles liable to follow such exposure or handling—adhesions with their consequences, loss of water from evaporation with the disagreeable subjective symptoms caused by it.
3. The vaginal route does away with the visible scar and the possibility of ventral hernia.
4. The vaginal route excludes the possibility of long confinement due to wound suppuration.
5. Operations by the vaginal route are followed by a very short detention of the patient in the hospital.
6. The after-treatment of vaginal operations is extremely simple and the patients are able to resume their work very early.

These advantages of the vaginal route were pointed out from the beginning of its use by Duehrssen and Mackenrodt. These authors used the vaginal route first in the treatment of retrodisplacement of the uterus. The vaginal route for operations on the uterine appendages and the uterus, aside from displacement of the uterus, was an early offspring of their original methods, an offspring which by its valuable adaptability soon threatened to overshadow the original idea. For while the use of the vaginal celiotomy spread and increased, the original vaginal operation of vagino-fixation, as used by Duehrssen and Mackenrodt, began to show serious after-effects. Though the vagino-fixation in itself was comparatively simple and the operative recoveries were rapid and uneventful, the remote results soon proved disappointing, even sometimes disastrous. If the operation was done so as to leave to the uterus a certain degree of mobility, recurrence came early and in numerous cases. If, on the other hand, the uterus was made firmly adherent, the adhesions proved a serious detriment in subsequent pregnancies.

As the general principle of the vaginal operation was desirable, various modifications were tried in order to avoid the disappointing remote results while preserving the advantages of the vaginal route. Intra-peritoneal fixation, extra-peritoneal fixation, fixation above the internal os, and below it, vesico-fixation, all were tried and found wanting. A large number of gynecologists wanted to abandon the vaginal operations for retrodisplacement altogether. In consequence of some confusion as to the terms vaginal celiotomy and vaginal fixation, some went so far as to condemn the vaginal celiotomy together with vagino-fixation. However, the splendid results of the vaginal celiotomy, reported from all parts of the world, placed this operation securely among the best acquisitions to modern gynecology.

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At this time (about 1896), though vagino-fixation continued to be the method of choice in the hands of a few, others tried to find such improvements as might recommend anew the vaginal route for the treatment of retrodisplacement. The methods which were the outcome of these endeavors are the methods of shortening the round ligaments as devised by Bode, Wertheim, Vineberg, and a method of shortening the sacro-uterine ligaments as devised by Wertheim and used by him in combination with the shortening of the round ligaments through the vagina.

While the method of shortening the sacro-uterine ligaments does not seem to have gained many friends, the methods of shortening the round ligaments through the vagina were used to a considerable extent in Europe as well as in America. The principle of these methods was to shorten the round ligaments either by folding them in a loop and sewing this loop together and on to the uterus or by sewing the round ligaments into the vaginal wound.

Fig 1

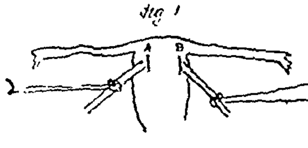


Fig 2

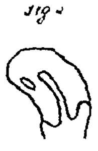


Fig 3

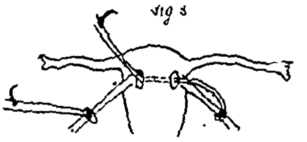


Fig. 4

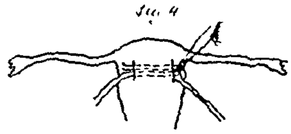


Fig 5

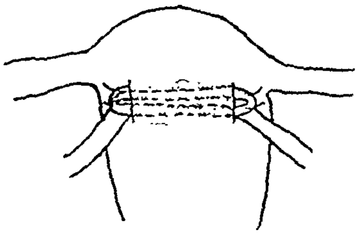
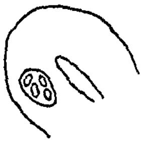


Fig. 6



Both of these methods were used in my personal work up to 1898, but on one hand I met with some technical difficulties and on the other hand the remote results were not absolutely perfect.

When the operation of shortening the round ligaments was done by folding them in a loop and fixing this loop by sutures, it was found, especially where the vagina was small, that the suturing was at times difficult, if it was done while the uterus was in the peritoneal cavity. If on the other hand the ligaments were sutured to the fundus of the uterus, while it was displaced into the vagina, it was found that on attempting to replace the uterus into the peritoneal cavity, there was either difficulty in replacing the uterus or the ligaments and the stitches were put on a considerable stretch during this act of the operation. The operation performed in this way produced adhesions between the serosa of the round ligaments and the serosa of the uterus. The result was a sero-serous union which, as is sufficiently known from intra-abdominal work in general, is apt to give way. The examination of the patients months or years after such operations did not fail to reveal this undesirable instability of sero-serous adhesions.

If the round ligaments were shortened by sewing them into the vaginal wound, it was to be feared that the short piece of round ligament between the uterus and the vaginal incision might not become sufficiently elongated in the case of a subsequent pregnancy and thus give rise to similar troubles as the original vagino-fixation.

Another objectionable feature was observed whether the ligaments were sutured to the uterus or to the vagina: When the round ligament was pulled down into the wound for the purpose of suturing it into its new position, it was seen that the tube near its insertion in the uterus was bent at a more or less sharp angle. This formation of an angle or kink in the tube is the natural consequence of the anatomic arrangement by which the peritoneum which covers the round ligament can not be pulled downwards or inwards to any extent without also pulling on the peritoneal coat of the tube. This kink threatened to interfere with the physiologic function of the tube and though I had no positive evidence by which to prove damage due to the kink in the tube I tried to improve on these methods.

The desirable points which the new method was intended to embody were the following:

1. A vaginal operation which would allow of all necessary operations on the appendages at the same time and through the same incision with that for the treatment of the retrodisplacement.
2. An operation that would preserve the mobility of the uterus so as not to interfere with possible pregnancy.
3. An operation that would not depend on sero-serous adhesions, as these had proved unreliable.
4. An operation that required as little suturing as possible in the peritoneal cavity and still would leave no raw surfaces that might give rise to adhesions.
5. An operation that would not interfere with the physiologic function of the tube.

The operation which I have devised and which meets the above mentioned five requirements had been done by me the first time, Jan. 13, 1899, and I have done it since on 20 patients, all of whom have recovered. The operation was first published in a paper read before the Chicago Medical Society,[1] Oct. 4, 1899. The operation is performed in the following way:

The patient is placed in lithotomy position and catheterized. A volsellum is placed on the anterior lip of the cervix. The uterus is dilated, irrigated with bichlorid, curetted and again irrigated, but not packed.

In front of the cervix a convex incision with the convexity towards the external orifice is made down to the uterine tissue. The bladder is then pushed away from the uterus until the fold of the peritoneum of the vesico-uterine pouch is reached. Then this fold is pulled down, taken hold of with two artery-forceps and incised between the two. Thereby the peritoneal cavity is opened. Now the volsellum which so far had pulled down the uterus, is pushed into the hollow of the sacrum and therewith the cervix shoved backwards and upwards. The fundus of the uterus is thereby made to come down into the vaginal incision and can be grasped with a volsellum and delivered into the vagina. Now

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[1] Chicago Med. Recorder.

Dr. Joseph Eastman, Indianapolis—It has occurred to me that possibly the sharp edge on this instrument is an objection because it might cut through tissue and thus produce a hemorrhage. Would it not be better to have the edges rounded, so that the line between the compressed and desiccated and the healthy tissue would not be so abrupt?

Dr. J. Wesley Bovée, Washington—I would like the Doctor to tell us what conditions he has found in these cases after the operation, as regards the presence of adhesions.

Dr. Henry P. Newman, Chicago—It is not necessary to apply the angiotribe for three minutes, as stated by the essayist, if a proper instrument of 3000 pounds pressure is used; one minute is usually sufficient. The instrument is therefore (instead of being a time-consumer) an expeditious means of operating upon the broad ligaments or other soft tissue amenable to its use. That the means of hemostasis has been unsatisfactory is evidenced by the introduction of the ecraseur, the retention forceps, the absorbable suture, and more lately the electric-heat apparatus of Skene, and the angiotribe. All of which are indications that the surgeon wishes to get away from the time-honored conventional ligature. The angiotribe has certain definite indications and when appropriately used will be found most satisfactory. The essayist's instrument seems well adapted to certain selected cases, and I see no reason why it should not prove highly satisfactory, providing the instrument is carefully made and reaches the requisite degree of compression.

Dr. Downes, closing—The electrothermic angiotribe compresses about one-third of an inch of tissue. I have examined it microscopically and found a homogeneous mass, no mucous membrane, no blood-vessel, no nerve. About one-sixteenth inch beyond the compressed end is a coagulation necrosis due to extension of the heat. It is a buffer which causes clotting. There is absolutely no evidence of any histological structure in the compressed area. One of the objections to the angiotribe is that it cuts tissue, but we can apply it carefully, and with this method you can apply it slowly, turning on a little heat and then compressing it. If it should crush, you must include the point crushed. That might occur in an extrauterine pregnancy, in softened infiltrated tubes, and, as in a case of puerperal sepsis I had, where both tubes and ovaries and the uterine walls contained pus, six weeks after a septic labor. I used this instrument, cutting right through, but the blood-vessel was in the compressed area. I felt that her recovery was due to the fact that, without ligatures, I had produced a complete hemostasis. There were two essential objections to Dr. Skene's instruments: one was that they did not give enough heat; and the other, not enough pressure. Therefore, it required much time, three minutes, for heavy pedicles. My first instrument was stronger than Dr. Skene's, but at a point near the center it would not compress because the blades did not meet. I used it twice and in the center of the tissue found an artery not compressed. I modified the instruments until I now have them, I believe, nearly perfect.

This method has nothing to do with electrolysis. It has nothing to do with electricity, except as an agent. The electric current goes into the instrument, into a resistant metal, to give heat by the resistance of that metal to electricity. If you can get any other agent that will give heat it will be just as good as the electricity. I do not know of an instance where this instrument will not safely supplant the ligature. I removed a breast by Halsted's method and rapidly hemostased all blood vessels. The insulation is affected by mica. I am rather timid of pressure alone, and, therefore, have not used the cold angiotribe, but I can turn any angiotribe into this apparatus. I have had three deaths, but they had nothing to do with hemostasis. I have performed an autopsy and found the stumps sterile, white and sweet. I am inclined to believe that there is no such thing as adhesion following the stumps left by this method. The point of contact is sealed and exudes nothing that would make it adherent.

An exhibitor of Roentgen apparatus in Berlin developed a typical, chronic x-ray burn on one hand, which recently became gangrenous and the prompt amputation of the entire member was unable to avert the fatal termination.

A NEW OPERATION FOR RETRODISPLACEMENT OF THE UTERUS.[*]

EMIL RIES, M.D.
PROFESSOR OF GYNECOLOGY, POST-GRADUATE MEDICAL SCHOOL, CHICAGO.

The vaginal route for operations on uterus and appendages, aside from hysterectomy, is recognized at present by a large number of gynecologists as a safe and convenient method, and is considered by them preferable to the abdominal route wherever it appears applicable. After long and exhaustive discussions the following advantages may be regarded as peculiar to the vaginal route in preference to the abdominal incision:

1. The vaginal route exposing only a limited portion of the abdominal cavity is less liable to lead to infection or so-called shock.

2. The vaginal route, requiring no exposure or handling of intestines or omentum or parietal peritoneum to any extent, avoids the post-operative troubles liable to follow such exposure or handling—adhesions with their consequences, loss of water from evaporation with the disagreeable subjective symptoms caused by it.

3. The vaginal route does away with the visible scar and the possibility of ventral hernia.

4. The vaginal route excludes the possibility of long confinement due to wound suppuration.

5. Operations by the vaginal route are followed by a very short detention of the patient in the hospital.

6. The after-treatment of vaginal operations is extremely simple and the patients are able to resume their work very early.

These advantages of the vaginal route were pointed out from the beginning of its use by Duehrssen and Mackenrodt. These authors used the vaginal route first in the treatment of retrodisplacement of the uterus. The vaginal route for operations on the uterine appendages and the uterus, aside from displacement of the uterus, was an early offspring of their original methods, an offspring which by its valuable adaptability soon threatened to overshadow the original idea. For while the use of the vaginal celiotomy spread and increased, the original vaginal operation of vagino-fixation, as used by Duehrssen and Mackenrodt, began to show serious after-effects. Though the vagino-fixation in itself was comparatively simple and the operative recoveries were rapid and uneventful, the remote results soon proved disappointing, even sometimes disastrous. If the operation was done so as to leave to the uterus a certain degree of mobility, recurrence came early and in numerous cases. If, on the other hand, the uterus was made firmly adherent, the adhesions proved a serious detriment in subsequent pregnancies.

As the general principle of the vaginal operation was desirable, various modifications were tried in order to avoid the disappointing remote results while preserving the advantages of the vaginal route. Intra-peritoneal fixation, extra-peritoneal fixation, fixation above the internal os, and below it, vesico-fixation, all were tried and found wanting. A large number of gynecologists wanted to abandon the vaginal operations for retrodisplacement altogether. In consequence of some confusion as to the terms vaginal celiotomy and vaginal fixation, some went so far as to condemn the vaginal celiotomy together with vagino-fixation. However, the splendid results of the vaginal celiotomy, reported from all parts of the world, placed this operation securely among the best acquisitions to modern gynecology.

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[*] Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee of the Section: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

At this time (about 1896), though vagino-fixation continued to be the method of choice in the hands of a few, others tried to find such improvements as might recommend anew the vaginal route for the treatment of retrodisplacement. The methods which were the outcome of these endeavors are the methods of shortening the round ligaments as devised by Bode, Wertheim, Vineberg, and a method of shortening the sacro-uterine ligaments as devised by Wertheim and used by him in combination with the shortening of the round ligaments through the vagina.

While the method of shortening the sacro-uterine ligaments does not seem to have gained many friends, the methods of shortening the round ligaments through the vagina were used to a considerable extent in Europe as well as in America. The principle of these methods was to shorten the round ligaments either by folding them in a loop and sewing this loop together and on to the uterus or by sewing the round ligaments into the vaginal wound.

Fig 1

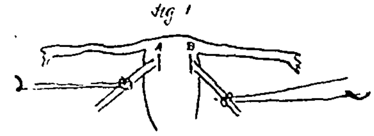


Fig 2

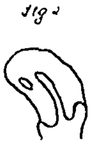


Fig 3

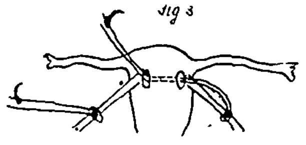


Fig 4

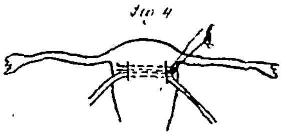


Fig 5

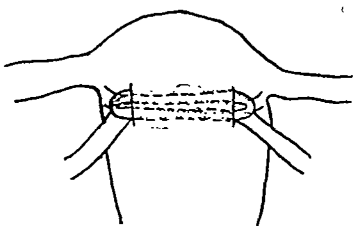
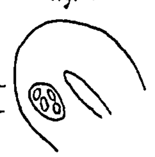


Fig. 6.



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In front of the cervix a convex incision with the convexity towards the external orifice is made down to the uterine tissue. The bladder is then pushed away from the uterus until the fold of the peritoneum of the vesico-uterine pouch is reached. Then this fold is pulled down, taken hold of with two artery-forceps and incised between the two. Thereby the peritoneal cavity is opened. Now the volsellum which so far had pulled down the uterus, is pushed into the hollow of the sacrum and therewith the cervix shoved backwards and upwards. The fundus of the uterus is thereby made to come down into the vaginal incision and can be grasped with a volsellum and delivered into the vagina. Now the volsellum which held the cervix is removed, the uterus being held only by the vosellum in the fundus, the appendages are now delivered into the vagina and whatever operation has to be done upon them is performed and the rest is returned into the peritoneal cavity.

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[1] Chicago Med. Recorder.

Now the right round ligament is taken hold of at the necessary distance from the uterus and pulled down into the vagina. With a blunt instrument it is detached from the peritoneal fold which binds it to the broad ligament to the length of about four centimeters from its point of insertion in the uterus. Now a catgut suture is passed first through, then around it, but not tied. The needle is left on the thread and needle and thread are temporarily held in an artery forceps. The procedure is then repeated on the opposite side (Fig. 1). Now a small, pointed knife is pushed through the anterior wall of the uterus from the point of insertion of one round ligament to the point of insertion of the opposite ligament (Fig. 1. A B). A tunnel is thereby made in the anterior uterine wall midway between the uterine cavity and the peritoneal coat of the body of the uterus (Fig. 2). Now an artery-forceps is passed from the left opening of the tunnel through the tunnel until it emerges at the opposite end of the tunnel. The needle and thread which hold the right round ligament are grasped in the artery-forceps and pulled through the tunnel until needle and both ends of the thread appear outside the left mouth of the tunnel. Again the needle and thread are held temporarily in an artery-forceps. Now an artery-forceps is passed through the tunnel from right to left and the needle and thread holding the left round ligament are grasped and carried through the tunnel (Fig. 3). When they emerge from the right mouth of the tunnel they are again secured in an artery-forceps. At this stage of the operation the two threads which hold the ligaments are crossed in the tunnel and the uterus is still in the vagina.

At this point the uterus is returned into the peritoneal cavity with the volsellum still holding on to the fundus. Now by pulling on the two threads the round ligaments are pulled into the tunnel in opposite directions (Fig. 4) and thereby the uterus pulled forwards as far as desirable. The threads are now held taut and the volsellum forceps is removed from the fundus. The needle which holds the thread on the left round ligament is now passed through the lips of the right mouth of the tunnel and the needle which holds the thread on the right round ligament is passed through the edge of the left opening of the tunnel. The stitches are then tied and cut short. With these two stitches the ligaments are fastened and at the same time the tunnel is closed so that no raw surface remains in the peritoneal cavity (Figs. 5 and 6). Now the edges of the peritoneum are united by continuous catgut suture and in the same way the edges of the vaginal incision are brought together.

Certain modifications of this technique are made under special conditions. For instance, where a cystocele complicates the retroversion, the first incision is made V-shaped and a flap of vaginal tissue as outlined by the V is dissected up and afterwards removed completely for the purpose of the anterior colporrhaphy Where the uterus is imbedded in numerous and firm adhesions, it is sometimes impossible to deliver it without a previous posterior colpotomy through which the posterior adhesions are broken up. It has happened to me once, that when I tried to pull the ligament into the tunnel, it was torn. In this case I took the distal end of the ligament and pulled it through the tunnel and disregarded the uterine end entirely. Where the retrodisplacement is associated with a fibroid in the anterior uterine wall and where the fibroid has been enucleated, the ligaments, instead of being passed through a specially made tunnel, may be inserted into the cavity resulting from the removal of the fibroid.

The after-treatment is that of all vaginal celiotomies, as I have described it at the meeting of the American Medical Association in Columbus.[2] The patients leave the hospital as a rule at the end of a week.

Fourteen of my cases were operated on during 1899 and 1900. Seven of the patients live at more or less considerable distances from Chicago and could not be examined. Seven patients have been re-examined recently and in all of them the uterus was found movable and in good position. One case, the first one operated upon, is particularly interesting, because in this case, aside from the adhesions which held the uterus in retroversion, there was occlusion of both tubes which was treated by bilateral salpingostomy. The patient conceived three months after the operation, went through her pregnancy without any difficulty and gave birth to a healthy, living child. She was examined again after the birth of the child and the operation had stood this supreme test of all operations for retrodisplacement. The uterus was found in good position about three months after the confinement.

The operation described here is easily performed and easily combined with all kinds of operations on uterus, appendages, vagina and perineum. It involves very slight loss of blood. It leaves a movable uterus. It produces a sero-fibrous union between uterus and round ligaments. It requires only two stitches in the uterus after the organ is replaced in the peritoneal cavity. It does not kink the tube.

100 State Street.

SURGICAL TREATMENT OF RETROVERSION OF THE UTERUS.*

FRANKLIN H. MARTIN, M.D.
Professor of Gynecology, Post-Graduate Medical School; Surgeon of the Woman's Hospital, Chicago.
CHICAGO.

Two operations have become established in surgery as procedures of necessity in the successful treatment of persistent retroversion of the uterus. One is the operation of shortening the round ligaments of the uterus in the inguinal canal or the Alexander operation; the other that of fixing the uterus by some means to the abdominal wall through a laparotomy incision, or the operation of ventral fixation of the uterus.

THE ALEXANDER OPERATION.

The names of Alquie, of Montpellier, Alexander and Adams, of England, should be inseparably coupled with the inception of this operation. Alquie,[1] the Frenchman, conceived the idea and presented a memorial to the Academy of Medicine, Nov. 17, 1840. No operation had been performed. Alexander,[2] of Liverpool, performed his first operation, Dec. 14, 1881, but did not publish until January, 1883. Adams,[3] of Glasgow,

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[2] The Journal A. M. A.

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee of the Section: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

VENTRAL FIXATION OF UTERUS AFTER LAPAROTOMIES. *(Continued.)*

No.	Age.	Date.	Hospital.	Address.	Diagnosis.	Operation.	Result.
17	25	5, 10, '97	Chi. .	Chicago. .	Diseased appendages, retroversion with adhesions.	Append. removed, u. replaced, u. suspended on strip of peritoneum.	Examined in 1900; perfect health; u. in position.
18	.	5, 13, '97	Chi .	Missouri .	Diseased appendages, uterus retroverted.	Laparotomy, append. removed, u. suspended on strip of peritoneum.	Reported by letter Dec., 1900, that she was in perfect health.
19	25	5, 15, '97	W . .	Chicago. .	Double pyosalpinx with retroversion and adhesions.	Append. removed, u. replaced, u. suspended on strip of peritoneum.	Same as above.
20	29	5, 24, '97	Chi. .	"	Double pyosalpinx with retroversion and adhesions.	Same as above	Uterus in perfect position one year after operation.
21	35	6, 10, '97	Wis. .	"	Double pyosalpinx, retroversion, adhesions; periodical insanity.	Laparotomy, u. replaced, u. suspended on urachus.	Two yr. after, u. in perfect position, mental condit'n better, perf. health
22	45	6, 21, '97	P. G..	"	Double pyosalpinx, retroversion with adhesions.	Appendages removed, u. replaced, u. suspended on strip of peritoneum.	In perfect health, u. in position and movable 1 year after operation.
23	28	6, 25, '97	W. . .	Missouri .	Pyosalpinx on the right side; pregnancy on the left.	Gestation sack and r. append. removed, u. suspended on urachus.	
24	.	6, 28, '97	C.. . .	Chicago. .	Disease of both appendages, retroversion with adhesions.	Laparotomy, appendages removed, u. suspended on strip of peritoneum.	In perfect health 6 months after operation.
25	32	7, 6, '97	Chi. .	"	Double ovarian cysts with retroversion.	Laparotomy, both ovaries with cysts removed, u. suspended on strip periton.	Dec., 1900, u. in perfect position, in [illegible] a little sore.
26	31	7, 10, '97	P. G..	Illinois . .	Doublesalpingitis with ovarian cyst	Appendages removed, u. suspended on strip of peritoneum.	L[illegible] works 14 hr. a [illegible] all the work.
27	29	7, 10, '97	P. G..	Chicago. .	Double pyosalpinx, retroversion with adhesions.	Laparotomy, appendages removed, u. suspended on strip peritoneum.	In perfect health 6 months after the operation.
28	27	8, 2, '97	Chi. .	"	Double pyosalpinx, retroversion with adhesions.	Appendages removed, u. suspended on strip of peritoneum.	In perfect health when she left the hospital.
29	29	8, 5, '97	P. G.	"	Right tube and ovary diseased, endometritis, retroversion, adhesions.	R. append removed, u. replaced, u. suspended on strip of peritoneum.	Writes Dec., 1900: no better, back- [illegible] oppo. for exam.
30	23	8, 11, '97	Chi. .	"	Double salpingitis oöphoritis	Appendages removed, u. replaced, suspended on strip of peritoneum.	[illegible] perfect health, [illegible]n and movable.
31	48	8, 12, '97	W.'s .	"	[illegible] diseas'd [illegible]	Curette., perineorrhaphy, appendages removed, u. replaced, u. suspended on strip of peritoneum.	In perfect health 1 year after operation; insanity cured.
32	42	8, 16, '97	C.. .	"	Double pyosalpinx, retroversion and strong adhesions.	Appendages removed, u. replaced, u. suspended on strip of peritoneum.	
33	39	8, 18, '97	P. G.	"	Double pyosalpinx, retroversion, strong adhesions.	Appendages removed, replacement of uterus on strip of peritoneum.	
34	35	9, 9, '97	W... .	Kansas . .	Double pyosalpinx and hematoma of left side.	Appendages removed, u. suspended on strip of peritoneum.	Examined in 1900; in perfect health, uterus in position.
35	41	10, 9, '97	W... .	Chicago. .	Double salpingitis and oöphoritis. retroversion with dense adhesions	Appendages removed, u. replaced on strip of peritoneum.	Same as above.
36	23	10, 4, '97	C.. . .	Iowa . . .	Retroversion with adherent uterus, severe dysmenorrhea.	Curette., parovarium of r. ovary resected, u. replaced, u. suspended on strip of peritoneum.	Letter in '99; child with norm. labor, worked till confined, health never better, u. in nor'al posi. after confin.
37	28	10, 6, '97	P. G..	Chicago. .	Double pyosalpinx, retroversion and adhesions.	Appendages removed, u. suspended on strip of peritoneum.	Letter 1 year after; patient in perfect health.
38	39	10, 11, '97	C. . .	"	Double pyosalpinx, retrov., adhesions, small fibroid in uterine wall	Appendages removed by myomectomy, u. suspended on strip of peritoneum.	Patient had uterus removed one year afterward.
39	21	10, 18, '97	P. G..	Wisconsin.	Double pyosalpinx, parovarium cysts of right side, uterus retroverted	Append. remov., parovari. cyst enucleat., u. replaced, suspend. on strip periton.	
40	25	10, 23, '97	W . .	Chicago. .	Double salpingitis and oöphoritis, small fibroid in top of uterus.	Appendages removed, fibroid enucleated and u. suspended on strip of periton.	Examination, Jan., 1901, u. in perfect position, patient in perfect health.
41	39	10, 23, '97	C. . .	"	Double salpingitis; patient is unbalanced at menstrual periods.	Appendages removed, u. suspended on strip of peritoneum.	Patient much improved at the end of 1 year.
42	41	10, 25, '97	C. . .	"	Double salpingitis, fibroid in wall of uterus, retroversion.	Fibroids removed, appendages and u. suspended on strip peritoneum.	
43	36	11, 3, '97	W.'s .	Iowa . . .	Large multilocular of left ovary, fibroids of uterus.	Ovarian cysts remov., fibroids on u. walls enucleat., u. suspended on strip of p.	Lettér Dec., 1900; best of health, no return of symptoms of any kind.
44	40	11, 1, '97	P. G .	Chicago. .	Retroversion with adhesions	Laparotomy, u. replaced and suspended on strip of peritoneum	
45	38	11, 8, '97	P. G .	"	Double salpingitis hematoma of r. side, parovarium cyst on left side	Cyst removed, ovaries excised, u. suspended on strip of peritoneum.	Dec. 17, 1900, u. in perfect position and movable, some tenderness on l. side, health perf., with above excep.
46	23	11, 6, '97	C.. . .	"	Double pyosalpinx, retroversion with adhesions.	Appendages removed, u. replaced and suspended on strip of peritoneum.	
47	33	11, 22, '97	P. G..	"	Retroversion but movable; attempt to antifix, but ligament breaking, ventral suspension performed with strip of peritoneum.	. . . .	
48	35	12, 28, '97	W.'s .	Illinois . .	Double pyosalpinx with cystic ovaries, retroversion with adhesions.	Appendages removed, u. replaced and suspended on strip of peritoneum.	Jan. 1, 1900, patient strong, perfect health and thankful
49	35	12, 30, '97	W.'s .	Indiana.. .	Double pyosalpinx, retroversion with adhesions.	Same as above	Exam. within 2 yr. afterward, u. remained in position, general health not markedly improved.
50	18	1, 3, '98	C.. . .	Chicago. .	Double pyosalpinx with retroversion	Same as above	
51	43	1, 3, '98	P. G .	"	Double pyosalpinx, hematoma of ovary.	Curette., appendages removed, u. suspended on strip of peritoneum.	Exam. Dec. 16, 1900, u. in perfect position and patient in perfect health.
52	30	1, 17, '98	P. G .	"	Double pyosalpinx, retroversion with adhesion.	Append. removed, u. replaced, u. suspended on strip of peritoneum.	Patient in perfect health 2 years after operation.
53	33	1, 24, '98	P. G .	"	Double pyosalpinx, cystic ovaries, retroversion, nymphomania.	Same as above	Patient much improved in health.
54	31	1, 31, '98	C. . .	"	Double salpingitis and oöphoritis, retroversion with adhesions.	Same as above	
55	28	2, 7, '98	P. G .	"	Salpingitis, cystic ovaries, retrov., adhesions, occasional convulsions and unconscious during menses.	Same as above	Examined Dec. 15, 1900, u. in perfect position; patient considers herself in perfect health.
56	23	2, 14, '98	C. . .	Illinois . .	Double pyosalpinx, broad ligament 4 inches in diameter.	Appendages removed, cyst removed, u. suspended on strip of peritoneum.	Exam. Dec 19, 1900, in perfect health, u. in perfect position.
57	24	2, 14, '98	C. . .	Chicago. .	Tubercular abscesses of both ovaries, retroversion.	Appendages removed, u. replaced on strip of peritoneum.	Exam. Dec. 18, 1900, improved and strong, considers herself in perfect health, u. in perfect position.
58	28	2, 23, '98	C.. . .	Indiana . .	Intramural fibroid of the uterus, cystic ovaries.	Same as above	Letter in 1901 states, patient in perfect health and thankful.
59	31	3, 12, '98	C.. . .	Illinois . .	Fibroid nodule in broad ligament, right ovary cystic.	Fibroids removed, ovary excised, ovary suspended on strip of peritoneum.	Patient died next day from exhaustion.
60	.	3, 14, '98	C. . .	Chicago. .	Double pyosalpinx, retroversion, laceration of the perineum.	Curette., perineorrhaphy, append. removed, u. suspend. on strip of periton.	
61	21	3, 21, '98	P. G .	Illinois . .	Double pyosalpinx, retrov., adhesions; excess. nervous at menses.	Appendages removed, suspension of u. on strip of peritoneum.	Exam. in 1900, absolutely well, u. in perfect position.
62	37	3, 21, '98	C.. . .	Chicago .	Tubal pregnan. of r. side, pyosalpinx on l., retroversion with adhesions.	Ovum removed, 1 append. excised, u. restored and suspend. on sttip of periton	
63	36	3, 22, '98	P. G .	"	Double pyosalpinx, general adhes'ns of uterus and appendages to intestines, retroversion.	Appendages removed, u. replaced and suspended on strip of peritoneum.	
64	24	4, 14, '98	P. G .	"	Double pyosalpinx, retrov., adhes., replacement of uterus and suspension on strip of peritoneum	Same as above	Seen in 1900, in pefect health, u. in perfect position.
65	41	4, 24, '98	C. . .	"	Double pyosalpinx, retroversion, adhesions.	Same as above	In perfect health, u. in position.

VENTRAL FIXATION OF UTERUS AFTER LAPAROTOMIES. *(Continued.)*

No.	Age.	Date.	Hospital.	Address.	Diagnosis.	Operation.	Result.
66	40	5, 9, '98	P. G.	Missouri .	Laceration of perineum and cervix, double pyosalpinx, retroversion	Curette., perineum restored, laparotomy, appendages removed, u. suspended on strip of peritoneum.	Patient in perfect health 2 years after.
67	31	5, 31, .	P. G.	Iowa . . .	Retroversion with adhesions, endometritis.	Curette., laparotomy, one ovary excised, u. replaced, susp. on strip of periton.	Exam. 2, 12, '01, in perfect health, u. in position.
68	31	5, 16, .	P. G.	Illinois . .	Multilocular ovarian tumor, retroverted uterus.	Tumor and ovary removed, u. replaced and suspended on strip of peritoneum.	Exam. 12, 16, '00; husband writes she is in perfect health, better than he ever expected she would be.
69	46	6, 9,	W. . .	“	Cystic right ovary, small fibroid in fundus of uterus, retroversion, endometritis.	Curettement, laparotomy, enucleation of fibroid, removal of appendages, suspension of u on strip of periton'm	
70	.	6, 15, .	C. . .	Chicago . .	Double pyosalpinx, retroversion with dense adhesions	Appendages removed, u. replaced and suspended on strip of peritoneum.	
71	27	6, 28, .	W. . .	“	Same as above	Curette., appenda. removed, u. removed and suspended from strip of periton'm.	
72	34	6. 28, .	P. G.	“	Salpingitis, oöphoritis, retroversion of uterus with adhesions.	Appendages removed, u. suspended on strip of peritoneum.	Seen in 1900, in perfect health, u. in perfect position.
73	35	7, 9, .	W. . .	“	Same as above. . . .	Same as above	
74	21	7, 11, .	P. G	Iowa . . .	Double pyosalpinx, lacerated perineum, hemorrhoids, periodic insanity.	Curette., u replaced, hemorrhoids excised, appendages removed, u suspended on strip of peritoneum.	Reported 1 yr. after; nervous symptoms practically cured, strong and much improved in general health.
75	24	7, 21, .	W. . .	Washington.	Cystic ovary, retroversion with adhesions.	R. ovary resected, u. replaced and suspended on strip of peritoneum.	Exam. in 1900, in perfect health, u. in perfect position.
76	39	9, 27, .	W. . .	Illinois . .	Fibroid in fundus of uterus, retroversion.	Append. removed to establ. artificial menopause, u. suspended on strip.	
77	61	10, 7, .	W. . .	Wisconsin.	Retroversion with adhesions	Laparotomy, ovaries excised, u. replaced, suspended on strip of periton.	Reported in 1900, slight pain in side, otherwise practically well.
78	33	10, 10, .	W. . .	Michigan.	Double pyosalpinx, fibroid of uterus.	Appendages removed, fibroids excised, u. suspended on strip of peritoneum.	Reported quite well, some nervous symptoms
79	19	10, 17,	P. G.	Chicago. .	Cystic ovaries, severe menorrhagia and metrorrhagia with nervous symp , exaggerated at menstrua.	Appendages removed, uterus suspended on strip of peritoneum.	Exam. 12, 20, '00, in perfect health, nervous symptoms improved, u. in perfect position.
80	22	10, 17, .	P. G.	“	R. tubal pregnancy, suppurative dis of ovaries on l. side, marked retrov.	Ovum, left tube and ovary removed, u. suspended on strip of peritoneum.	Patient in perfect health when she left hospital.
81	28	10, 27, .	W.'s .	“	A broad ligament cyst 6 inches in diameter, l. appendages diseased.	Cyst removed, l. append, tube and ovary freed, u. replaced and susp on strip	Same as above.
82	39	10. 30, .	P. G	Indiana. .	Double ovarian and tubal suppura., retrov., menorrhagia, period. insan.	Appendages removed. u. replaced and suspended on strip of peritoneum	Letter from patient's parents Dec., 1900, states she is absolutely well.
83	32	11, 7, .	C. . .	Chicago .	Double pyosalpinx, retroversion.	Same as above	Patient in perfect health when she left hospital
84	28	11, 14, .	P. G.	“	Salpingitis and oöphoritis with retroversion.	Both append. repaired, care taken to preserve ovaries; u replaced and suspended on strip of peritoneum	Six months after operation, patient was well.
85	19	11, 14, .	C. . .	“	Double salpingitis with adhesions.	Appendages removed, uterus replaced on strip of peritoneum.	Patient in perfect health when she left hospital.
86	26	12, 29, .	P. G.	Iowa . . .	Double pyosalpinx with adhesions, retroversion	Append. removed. u. replaced and suspended; Mikulicz drain employed.	Dec 20, 1900, letter states patient well.
87	21	1, 18, '99	W. . .	Chicago. .	Double pyosalpinx, salpingitis and oöphoritis.	Appendages removed, u. suspended on strip of peritoneum.	Examination Dec. 29, 1900, perfect condition in every way.
88	39	1, 30, .	P. G.	“	Cystic ovary, double salpingitis with oöphoritis.	Same as above	
89	49	2, 13, .	P. G.	Montana...	Retroversion with adhesions.	Uterus replaced and suspended on strip of peritoneum.	
90	29	2, 23, .	W. . .	Nebrâska .	Retroversion with adhesions, cystic ovaries.	Appendages removed, u. replaced and suspended on strip of peritoneum.	Patient died suddenly next day.
91	22	3, 13, .	P. G	Chicago. .	Double pyosalpinx, adhes., ovarian abscesses, salpingitis, oöphoritis.	Same as above	
92	25	3, 21, .	W. . .	“	Double pyosalpinx, salping., oöphoritis, retroversion with adhesions.	Same as above	
93	29	3, 27, .	C . .	“	Double pyosalpinx, salpingitis, oöphoritis, adhesions.	Same as above	Exam Dec. 17, 1900, uterus in perfect position and well.
94	32	3, 27, .	C. . .	“	Double pyosalpinx, retroversion, adhesions, salpingitis, oöphoritis.	Same as above	
95	30	3, 31, .	W. . .	Montana...	Ovarian cyst, retroversion with adhesions, resection of ovary.	Same as above	
96	28	4, 4, .	P. G.	Michigan..	Cystic ovaries, resection of ovary.	Same as above	“A great success.” · May call in Jan.
97	.	4, 10, .	C. . .	Chicago. .	L. Hydro-salpingitis, r. pyosalpinx, ovarian abscesses and adhesions, double sal., oöphoritis.	Same as above	
98	30	4, 12, .	W. . .	Illinois . .	Right ovary cystic beneath broad ligament, left ovary papilloma.	Same as above	Exam. 12, 18, '99, health perfect, uterus in perfect position.
99	30	4, 12, .	W. . .	Chicago. .	Cystic ovary and tube, retroversion, adhesions, salpingitis, oöphoritis.	Same as above	Patient well; occasional attack of dysentery.
100	26	4, 18, .	W. . .	“	Double hydro-salpingitis, retroversion with adhesions	Same as above	Writes she is in perfect health Feb. 14; uterus in *perfect position.*
101	28	4, 19.	P. G.	Illinois . .	Cystic ovary, salpingitis, laceration of perineum, retroversion.	Curette., perineorrhaphy, ovaries resected, u. restored and suspended on strip of peritoneum.	Examined Dec. 29, 1900, uterus in perfect position.
102	26	4, 25, .	P. G.	“	Dysmenorrhea, retroversion, salpingitis	U. dilated, curette., appendages remov'd, u. suspended on strip of peritoneum.	
103	19	5, 1, .	C. . .	Chicago. .	Broad ligament cyst, cystic ovaries with retroversion.	Cysts removed, u. suspended on strip of peritoneum	
104	44	5, 1, .	C. . .	“	Persistent retroversion.	Uterus suspended on strip of peritoneum.	
105	30	5, 8, .	C. . .	“	Lacerated perineum, double pyosalpinx, dense adhesions, retrov.	Appendages removed, u. replaced and suspended on strip of peritoneum.	Patient died of shock in 12 hours.
106	32	5, 8, .	C. .	“	Retroversion with cysts of left ovary.	Resection of cyst of left ovary. suspension on strip of peritoneum.	
107	19	5, 15, .	C. . .	“	Double pyosalpinx, retroversion with adhesions.	Appendages removed, u. suspended on strip of peritoneum.	
108	28	5, 15, .	C. . .	“	Double pyosalpinx, retroversion with adhesions.	Same as above	Died 40 hours after operation from shock.
109	17	5, 22, .	C . . .	“	Same as above.	Same as above	In perfect health 12, 17, '00, uterus in perfect position.
110	18	5, 29, .	P. G.	Indiana...	Double pyosalpinx, endometritis . .	Curette., append. removed, u. restored and suspended to strip of peritoneum.	Examined Dec , 1900, slight backache, uterus in perfect position.
111	24	5, 29, .	P. G.	Michigan..	Left pyosalpinx	Curette., l. ovary and tube removed, cyst resected from r. ovary, u. suspended on strip of peritoneum.	General health much improved, still some pain at menstruation.
112	.	5, 29, .	. . . .	Minnesota.	. . . .	Appendages removed, u. suspended on strip of peritoneum.	
113	.	5, . . .	. . . .	“	*Double pyosalpinx.* laceration of perineum and cervix	Curette., cervix and perineum repaired, u. suspended on strip of peritoneum.	Patient very much improved after one year.
114	.	6, 1, .	W. . .	Indiana...	Cyst of left broad ligament, retroversion.	Appendages removed, u. suspended on strip of peritoneum.	Patient's health much improved.
115	38	6, 8, .	W. . .	Kansas . .	Double salpingitis, retroversion with adhesions.	Same as above	Much improved one year after operation.
116	.	7, 5, .	C. . .	Chicago. .	Cyst of right ovary, 4 by 3 inches in diameter, small cyst on left.	Same as above	
117	56	7, 5, .	W. . .	“	Adenosus cystoma of both ovaries. .	Cysts removed, uterus suspended on strip of peritoneum.	Patient died from return of disease, Jan., 1900.

VENTRAL FIXATION OF UTERUS AFTER LAPAROTOMIES. *(Continued.)*

No.	Age.	Date.	Hospital.	Address.	Diagnosis.	Operation.	Result
118	24	7, 24, '99	P. G.	Chicago.	Double pyosalpinx, retroversion.	Appendages removed, uterus suspended on strip of peritoneum.	One year after, patient in perfect health.
119	24	7, 31, .	P. G.	Illinois.	Laceration of perineum, r. pyosalpinx, retroversion, adhesions.	Same as above.	Examined 12, 18, '99, perfect health.
120	25	7, . .	W.	"	Cystic degeneration of ovary, anteflexion, retroversion.	Dilation, curettement, cysts of both ovaries resected, uterus suspended on strip of peritoneum.	Jan. 8, 1901, perfect health.
121	35	8, . .	W.	Chicago.	Extra-uterine pregnancy, pyosalpinx.	Ectopic pregnancy and appendages removed, u. suspended on strip of perito	
122	26	8, 18, .	W.	"	Retroversion with adhesions, cystic ovaries.	Appendages removed, u replaced and suspended on strip of peritoneum.	
123	27	8, 14, .	P. G.	"	Double pyosalpinx, retroversion with adhesions.	Same as above.	Examined 12, 17, '00, perfect health.
124	38	8, 22, .	Str't'r	California	Chronic retroversion with adhesions, cystic ovaries.	Dilatation, curettement, cyst and right ovary excised, u. replaced and suspended on strip of peritoneum.	Seen 3 mo after operation, uterus in perfect position; reported Dec, '00, condition very much improved.
125	27	9, 30, .	W.	Iowa.	Tubercular peritonitis, retroversion with adhesions, cystic ovaries.	Ovary resected, uterus replaced and suspended on strip of peritoneum.	Letter Dec., 1900, states she is in perfect health; thankful for operati'n.
126	32	10, 2, .	P. G.	Chicago.	Double hydrosalpinx, retroversion with adhesions.	Appendages removed, u replaced and suspended on strip of peritoneum.	
127	20	10, 2, .	C.	"	Double pyosalpinx, retrover., adhes.	Same as above.	
128	.	10, 3, .	W.	Illinois.	Retroversion with adhesions.	Curettement, uterus suspended on strip of peritoneum.	Examined Dec., 1900, uterus in position, much improved in health.
129	22	10, 3, .	W.	Chicago.	Tubercular salpingitis, retroversion with adhesions.	Appendages removed, u. replaced and suspended on strip of peritoneum.	Improved first 6 mo.; now has symptoms of returning tuberculosis, uterus remained in perfect posit'n.
130	.	10, 10, .	P. G.	"	Retroversion with adhesions.	Laparotomy, adhesions sepa, u replac'd and suspended on strip of peritoneum.	
131	23	10, 10, .	W.	"	Cysts of right ovary, subperitoneal fibroid on anterior wall of uterus.	Curette., cyst excised, fibroid, u. suspended on strip of peritoneum.	Exam. in last 6 mo., considers herself well, uterus in perfect position.
132	36	10, 23, .	P. G.	"	Retroversion with adhesions.	Adhesions broken up, uterus suspended on strip of peritoneum.	Pregnant since opera., normal labor. Confined by Dr. Milimo; exam. 1 mo. after confinement, u. in perfect posi.
133	.	11, 20, .	C.	"	Cystic ovaries, salpingitis.	Ovary resected, appendages removed, u. suspended on strip of peritoneum.	
134	.	12, 11, .	P. G.	"	" " hydrosalpinx.	Ovary resected, uterus replaced on strip of peritoneum.	
135	21	12, 12, .	W.	Wisconsin.	Tubercular salpingitis, retroflexion.	Appendages removed, u. replaced and suspended on strip of peritoneum.	
136	.	3, 19, '00	C.	Chicago.	Double pyosalpinx, retroversion.	Same as above.	
137	.	4, 7, .	P. G.	Indiana.	Double salpingitis.	Same as above.	Letter 12, 22, '00; she states she is but little better.
138	.	3, 28, .	C.	Chicago.	Double salpingitis, retroversion.	Same as above.	Exam. 12, 21, '00, in perfect health, uterus found in perfect position.
139	.	4, 21, .	W.	Illinois.	Cyst of left ovary, with retroversion.	Cyst resected, u. replaced and suspended on strip of peritoneum.	Exam. Apr., 1901, relieved of former symptoms, u. in perfect position.
140	.	4, 26, .	P. G.	Iowa.	Double pyosalpinx with retroversion	Removal of appendages, uterus suspended on strip of peritoneum.	Letter 1, 1, '01, was in perfect health until she had fall a month previo's.
141	.	4, 30, .	P. G.	Chicago.	Double pyosalpinx, retroversion, adhesions.	Same as above.	Perfect health 6 mo. after operation.
142	25	4, 26, .	C.	"	Double pyosalpinx with retroversion	Curette., appendages removed, uterus suspended on strip of peritoneum.	
143	.	5, 7, .	C.	"	Pyosalpinx, endometritis, laceration of the perineum.	Curette., perineum restored, r. ovary resected, uterus suspended on strip of peritoneum.	
144	.	5, 1, .	C.	"	Double pyosalpinx, retroversion.	Curettement, uterus replaced and suspended on strip of peritoneum.	
145	.	5, 1, .	W.	Indiana.	Cyst of right ovary, laceration of cervix and perineum, with retroversion.	Curettement, perineorrhaphy, trachelorrhaphy, uterus suspended on strip of peritoneum.	Letter Jan., 1901, not markedly improved, headaches, menstruation scanty and delayed.
146	.	5, 14, .	C.	Chicago.	Removal of cyst from right ovary.	Same as above.	Letter from fam. physician Jan., '01. states she is much impr'd, but not entirely reliev'd of symp. at menses.
147	.	5, 17, .	P. G.	"	Retroversion, with adhesions and appendicitis.	Appendix removed, uterus replaced and suspended on a strip of peritoneum.	
148	.	5, 14, .	P. G.	"	Double pyosalpinx, retroversion.	Perineorrhaphy, appendages removed, u. suspended on strip of peritoneum	Letter Jan., 1901, states patient considers herself in perfect health.
149	.	6, 15, .	W.	Wisconsin.	Retroversion, endometritis.	Curettement, uterus suspended on strip of peritoneum.	Letter states, gained steadily, good as new, little nervous as yet.
150	29	6, 18, .	C.	Chicago.	Parovarian cyst of left side, endometritis, laceration of the perineum.	Curettement, perineorrhaphy, appendages and cyst removed, uterus suspended on strip of peritoneum.	
151	.	6, 20, .	P. G.	Indiana.	Right-tube ovarian cyst four or five inches in diameter, l. ovary cystic.	Cyst and both appendages removed, u. suspended on strip of peritoneum.	Let Dec, 1900, considers herself well, but not as strong as she would like.
152	.	6, 29, .	W.	Illinois.	Laceration of the perineum, retrover. with adhesions, coccyodynia.	Perineorrhaphy, u. replaced, suspend. on strip of peritoneum coccyx removed.	Letter of Dec. 28, states the patient is absolutely well.
153	28	7, 28, .	C.	"	Retroversion with adhesions.	Uterus suspended on strip of peritone'm	Jan., 1901, patient in perfect health.
154	.	7, 13, .	P. G.	Chicago.	Double salpingitis, oöphoritis, with retroversion.	Appendages removed, uterus suspended on strip of peritoneum.	
155	.	8, 18, .	W.	"	Small fibroid of the u., perineum lacerated, endometritis, retroversion.	Curette., perineorrhaphy, [illegible] removed, u. susp. on strip [illegible]	[illegible] ater from a trouble not with the operation.
156	.	8, 7, .	P. G.	Iowa.	Double salpingitis with retroversion	Appendages removed, uterus [illegible] on strip of peritoneum.	[illegible], complains of pain on r. side, down limb; not much better.
157	.	8, 28, .	W.	Illinois.	Laceration of perineum, retroversion with adhesions.	Curette., perineum restored, uterus suspended on strip of peritoneum.	Jan. 1, '01, patient in perfect health.
158	20	9, 4, .	W.	Chicago.	Retroversion with fixation, endometritis.	Curettement, uterus replaced and suspended on strip of peritoneum	May 1, '01, patient in perfect health.
159	.	9, 12, .	P. G.	Indiana.	Retroversion, endometritis with severe dysmenorrhea.	Curettement, uterus replaced and suspended on strip of peritoneum.	Fam. physician states 1, 1, '01, she is in perfect health, no dysmenorrhea, uterus in perfect condition.
160	.	9, 20, .	W.	Chicago.	Double pyosalpinx, endometritis, retroversion.	Curettement, appendages removed, u. suspended on strip of peritoneum.	Exam. 12, 27, '00, considers herself well, organ in perfect position.
161	.	10, 8, .	P. G.	Illinois.	Double pyosalpinx, endometritis.	Same as above.	
162	39	10, . .	C.	Indiana.	Laceration of perineum, retroversion with adhesions.	Curette., perineorrhaphy, laparotomy, u. suspended on strip of peritoneum.	
163	23	10, 31, .	P. G.	Chicago.	Double salpingitis with retroversion	Curette., appendages removed, u. replaced and susp. on strip of periton.	Four months later the patient was in perfect health.
164	36	10, 31, .	P. G.	"	Laceration of the perineum, double pyosalpinx, retroversion.	Perineum restored, curette., [illegible] removed, u. suspended on s[illegible]	[illegible] nths after operation the [illegible] was in perfect health.
165	28	11, . .	P. G.	"	Double salpingitis, retroversion.	Appendages removed, uterus [illegible] on strip of peritoneum.	[illegible] n perfect health 6 months after operation.
166	.	11, . .	P. G.	"	Double salpingitis with retroversion	Appendages removed, curettement, u suspended on strip of peritoneum.	Patient in perfect health 3 months after operation.
167	21	11, 12, .	C.	"	Double pyosalpinx.	Same as above.	Patient now in normal condition.
168	41	11, 26, .	P. G.	"	Laceration of perineum, retrover. with adhesions, double pyosalpinx	Perineum restored, curette., appendages removed, u. susp. on strip of periton.	Death in 30 hours.
169	32	12, 6, .	W.	"	Double pyosalpinx, retroversion with adhesions, endometritis.	Appendages removed, uterus suspended on strip of peritoneum.	Patient in perfect health 3 months after operation.

VENTRAL FIXATION OF UTERUS AFTER LAPAROTOMIES. *(Concluded.)*

No.	Age.	Date.	Hospital.	Address.	Diagnosis.	Operation.	Result.
170	.	12, 17, '00	C. .	Illinois . .	Double pyosalpinx, endometritis	Append. removed, u. suspended on strip.	Perfect health 6 wk. after operation.
171	.	12, . . .	P. G .	"	Laceration of perineum, endometritis, retroversion.	Perineorrhaphy, perineum restored, u. suspended on strip of peritoneum.	Patient's condition satisfactory in 6 weeks.
172	40	12, 29, .	W . .	Indiana. .	Small fibroid in walls of uterus, myomectomy for fibroid.	Appendages removed, myomectomy, u. suspended on strip of peritoneum.	Patient in perfect health 2 months after operation.
173	.	12, 31, .	P. G .	Chicago. .	Laceration of perineum, endometritis, retroversion.	Perineorrhaphy, curettement, uterus suspended on strip of peritoneum.	

the urachus is entirely absent. 3. In a very small percentage of cases the urachus remains pervious from its bladder end.

The Writer's Method of Ventral Fixation by Suspension of Uterus on Strip of Peritoneum.—I first described my operation and reported several cases to the Chicago Gynecological Society, Nov. 19, 1897.[18] One hundred and seventy-three cases upon which this operation has been performed I now have the honor to present to you for analysis.

I have finally adopted this operation exclusively for all cases requiring a ventral suspension of the uterus for the following reasons: 1, because of its simplicity and ease of accomplishment; 2, because of the thoroughness of fixation; 3, because it positively does away with any form of permanent buried sutures; 4, because it accomplishes a fixation which allows of a large range of movability; 5, *because the fixation does not directly involve* the appendages; 6, because experience demonstrates that the point of fixation is not the source of subsequent irritation or pain; and 8, because of the possibility of pregnancy occurring and going on to normal confinement after the operation.

The technique of the operation is very simple. It is performed in the same manner whether the appendages are removed or remain intact. The abdomen is opened with the patient in Trendelenburg's position with a median incision two to three inches in length extending from two inches below the umbilicus to about one to two inches above the symphysis pubis. The uterus is carefully freed from adhesions of every kind well down to the Douglas pouch. The posterior surface of the broad ligaments are also carefully freed from any fixation. The uterus is then brought well forward with its fundus pressed upon the parietal peritoneum just beneath the lower end of the abdominal incision. From one side of the abdominal incision, and parallel to it, a ribbon of peritoneum, with its subperitoneal connective tissue about one-half inch in width with one edge of it corresponding to the free edge of the abdominal incision, is rapidly dissected free with the scissors or knife; the end of this ribbon corresponding to the upper end of the wound is severed and the lower end is dissected until it extends beneath the lower angle of the incision. This prepares a firm band of peritoneal and subperitoneal tissue about one-half inch in width, about three inches in length, with an attachment to the peritoneum beneath the lower angle of the wound, *in the median line directly* over the fundus of the uterus. The uterus is now supported well forward with the two fingers of the left hand of the operator, a Cleveland ligature carrier is made to penetrate the fundus just posterior to its crest in a direction from behind forward just beneath the peritoneum and a width of grasp of three-quarters of an inch. After the blades of the carrier have penetrated well through the tissues, they are opened to the extent of an eighth of an inch and are made to grasp the free end of the peritoneal ribbon, and then to draw it through the opening made (Fig. 4). The uterus is now pushed well forward on the ligament until it is arrested by its lower fixed end, and then, by means of a small antiseptic catgut buried suture, the uterus is temporarily fixed. This catgut suture is passed through the aponeurosis, the muscle and the peritoneum on one side of the lower angle of the wound, then transversely through the peritoneal and subperitoneal coat of the uterus, just posterior to the point of exit of the new suspending peritoneal ligament, and finally passed to the peritoneum muscle and aponeurosis of the opposite side of the abdominal wound and tied, thereby firmly fixing the uterus for a time corresponding to the life of the catgut, and until such a time as a new suspensory ligament will be securely fixed again to the peritoneum (Fig. 5).

SUMMARY OF ONE HUNDRED AND SEVENTY-THREE OPERATIONS FOR VENTRAL-SUSPENSION.

By correspondence with patients direct or with their family physician and by personal interviews I have been able to learn of the condition of 114 of the 173 cases I have operated on for ventral fixation of the uterus by this new method.

In the 173 cases representing all operated on for ventral fixation by this method in the four years beginning Jan. 1, 1897, to June 1, 1901—many of the cases including operations for laceration of the perineum, cervix, and removal of the appendages and even myomectomies for fibroids—there were six deaths, or a primary mortality of 3.5 per cent. In but 13 cases were there no complicating conditions requiring operations other than the laparotomy for the ventral fixation. In these there was no death. The appendages were removed for septic lesions as an accompanying operation of the ventral fixation in 114 cases. In five large ovarian cysts were removed. In four the appendages were removed for tuberculosis. In five for parovarian cysts. In 12 cases the appendages were removed and myomectomy was performed for accompanying fibroids of the uterus. In 29 cases the appendages were not removed. In twelve of these 29 cases conservative surgery was necessary on one or both ovaries. One case was accompanied by an operation for appendicitis. Of the 173 operations there were four which had an accompanying operation for ectopic pregnancy. Perineorrhaphy was an accompanying operation in twenty-five of the 173 cases. Curettement of the uterus was performed in twenty-eight of the 173 cases. Trachelorrhaphy was performed in 19 of the series of cases.

Serious mental disturbances existed previous to the operation and was the paramount symptom for which relief was sought in 9 cases. These were cases 21, 31, 41, 53, 55, 61, 74, 79, 82.

In case 21 the patient was considered mentally unbalanced by the family, with exacerbations at the menstrual period. The retroversion was accompanied with infected appendages. The appendages were removed and the uterus suspended. The patient was examined by me two years after the operation and the uterus was in perfect position and condition, and she was said to be cured of her mental symptoms by her family.

Case 31 had mental disturbances since birth of her last child, which was exaggerated at menstruation. She had severe dysmenorrhea and menorrhagia and a laceration of the perineum accompanying the retroversion. Curettement, perineorrhaphy and removal of the appendages were done at the time of the ventral fixation. In one year after the operation the patient was in perfect health.

Case 41 was a duplicate of the above case precisely except that the perineum did not have to be restored. At the end of one year the mental condition was improved, but not entirely relieved. The uterus remained perfect.

Case 55, unmarried, had cystic appendages, a retroverted and adherent uterus. She had "severe convulsions and became unconscious at her menstrual periods." The appendages were removed and the uterus replaced and suspended. Examination of the patient by me three years later revealed the pelvic organs perfect and the patient stated that she had been in perfect health since the operation.

Case 61 gave a history of being mentally disturbed at the menstrual period. Her appendages were infected and the uterus was fixed in retroversion. The appendages were removed. Three years afterward I examined the patient. Her uterus was well supported and her health absolutely perfect.

Case 74 gave a history of periodic insanity much aggravated at menstruation. The woman was 21 years old and married. The appendages were infected and the uterus retroverted and adherent. The appendages were removed and the uterus suspended. One year afterward the patient was well.

Case 79. Married, aged 19, had large cystic appendages and suffered with excruciating dysmenorrhea and excessive menorrhagia. She had alarming nervous symptoms which assumed a marked form of mania at menstrual periods. The appendages were removed and the retroverted uterus replaced and suspended. Two years afterward I examined the patient and she was in perfect health.

Case 82. Married, age 39, had double pyosalpinx retroversion with adhesions. She had symptoms of severe menorrhagia and periodic insanity aggravated at menstrual periods. The appendages were removed and the uterus replaced and suspended. A letter from the patient's parents two years afterwards discloses the patient to be absolutely well.

In the 173 cases 9 failures must be recorded. These were cases 38, 49, 59, 90, 103, 108, 117, 155, 168. Among the nine failures I place 6 deaths, leaving but three to count for failures out of the 167 which recovered. Of these case 38 submitted to a vaginal hysterectomy one year after the first operation, for carcinoma. The fundus was found well forward and well fixed with a broad movable attachment.

This case (38) and another one of June 13 gave me an opportunity of making an antemortem examination of my handiwork.

Case 38 was operated on one year after her ventral suspension for cancer, the operation being vaginal hysterectomy. During the progress of this operation I found the fundus suspended to the abdominal wall above the bladder by a well-defined cord of tissue about one eighth inch in diameter and three-fourths of an inch in length, which preserved a structure resembling a connective tissue center covered with peritoneum. Fig. 6 gives a very accurate representation of this ligament as it appeared through the vault of the vagina when the uterus was freed from its attachments and drawn well down.

Case 78 was a case in which a secondary laparotomy became necessary because of persistent pain in the left side of the pelvis, accompanied with periodic partial obstruction of the bowels. A diagnosis of intestinal adhesion to the point of repair of the ovary of the left side, decided a second operation. When the incision was made the beautiful picture shown in Figure 7 was presented. A portion of the intestine was adherent to the line of repair of the left ovary. With this relieved the abdomen was closed. The new ligament was one-eighth of an inch in diameter at its center and smallest part, and was about one inch in length. The ligament was shaped like a round ligament rather than a peritoneal strip.

Case 49 was not examined or interviewed by me, but she replied by letter that her health was not much improved. Her operation included the removal of very seriously diseased appendages.

Case 117 at the time of operation for ventral fixation had adenocystoma of both ovaries removed. The patient died in a year and a half from malignant disease in the pelvis.

There were two cases of pregnancy occurring in the 173 cases. Case 36 gave birth without complications to a healthy child two years after the operation. There were no abnormal symptoms during the carrying of the child. One year after the confinement the uterus was in normal position and the patient well. Case 132 was confined in normal labor one year after the operation, giving birth to a healthy child. She had no abnormal symptoms during the child-carrying period. One and a half years after her uterus was in normal position and the patient well.

Ninety-seven of the 173 cases have communicated with me directly either by personal interviews and examination, reports from the family physician or direct correspondence at periods of from a half to five years after the operation. Four thus reported between 4 and 5 years after the operation; twenty-nine between 3 and 4 years; twenty-one between 2 and 3 years; twenty-two between 1 and 2 years; twenty-one between one-half and one year.

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DISCUSSION ON PAPERS OF DRS. RIES AND MARTIN.

Dr. J. Riddle Goffe, New York City—These two papers open up the whole subject of treatment of retroversion. We can perhaps consider this question in a more systematic and logical way if we will first discuss the dynamics of the female pelvis. The misunderstanding and divergence of opinion on this subject of displacement has been largely due to a misconception of the dynamics of the female organs—the position of the organs when the woman is on her feet. We have been getting our ideas from frozen sections, which merely represent the condition in an individual case. We must examine living patients when they are on their feet. It is then that the forces are at work that hold the organs in place and that influence displacement. When a woman is on her feet, the symphysis pubis is on a lower level than the tip of the coccyx. Normally the symphysis is in a line with the center of gravity of the body. The uterus is in the center of the space with the bladder filling in the space between the uterus and the symphysis. The uterus lies on its anterior face and is held in place by its ligaments. [This was illustrated by a free-hand drawing on the board.] It was formerly supposed that the uterus must be held up by something under it, and we built up the perineum as a uterine support. That theory has been exploded long ago. The supports of the uterus are its ligaments. All organs in the body are supported by ligaments; none are held up by anything under them, and the uterus corresponds to nature's plan of suspension.

The most important supports of the uterus are the utero-sacral plus the utero-vesical ligaments, which form a sling in which the uterus rests. The uterus can rise or fall according to the fulness of the bladder and can slide backward or forward. With the uterus in this position we have the intra-abdominal pressure, carrying the fundus toward the front, and gravity pulling it down. To keep the uterus in place we must keep the cervix well up in the hollow of the sacrum. The utero-sacral ligament is most important for retaining the uterus in this position, and it is impossible for the fundus to retrovert as long as the ligament is not relaxed.

The ideal operation for the restoration of the uterus to its normal position will eventually be found by working on this utero-sacral ligament. I have attempted it, but as yet we have not succeeded in the operations on the utero-sacral ligament. We must turn then to the other ligaments, the broad or round ligaments, for that support. I believe that the operations we do on the round ligaments tend to hold the fundus to the front long enough for the sacral ligament to recover itself and thereby we restore the normal support. In the processes of involution and sub-involution the ligaments take as much part as the uterus; in pregnancy the ligaments are also enlarged and lengthened. If after parturition involution does not take place properly, in the ligaments, the fundus sags and eventually tips backward.

What shall we do in cases of retroversion? We can not shorten the utero-sacral ligament, and the next best ligament is the round ligament, or we can attach the fundus to the abdominal wall as has been suggested. I am unalterably opposed to any operation that necessitates an incision through the abdominal wall for a condition so easily relieved as a retroverted uterus. Dr. Martin has laid stress upon the seriousness of a retroverted uterus, but I must disagree with him. There is a large school of gynecologists who take the position that if the uterus and its appendages are healthy it makes little difference where the fundus rests. It is the complicating diseases and the adhesions that make trouble. I believe it is better that the uterus should be in the normal position, but I do not believe that retroversion, when uncomplicated, justifies us in making an incision through the abdominal wall on account of the immediate danger of peritonitis and the immediate or remote danger of hernia. Any man who has had much experience in ventral fixation or the Alexander operation will have to admit that in the hands of every operator a certain proportion of these women eventually suffer from hernia. Such a woman is a thousand times worse off than she was before the operation, so that I denounce the Alexander operation *in toto.*

I can not approve of Dr. Martin's procedure, although he has brought out very ingenious methods of shortening the round ligament. The operation is not indicated in cases in which there is disease or adhesions of the appendages; indeed, the Alexander operation is contraindicated. It is applicable only in simple retroversion. The operation he has suggested of tying the round ligaments in the subcutaneous tissue necessitates still further manipulation, and the more we manipulate the tissue about the symphysis and mons veneris, the greater the danger of sepsis, which is almost invariably followed by hernia. The simpler we can make these operations, the better. These same remarks will apply to ventral fixation.

I believe that Dr. Ries is working in the right direction. He has presented a very important procedure. He attacks these conditions through the vagina, an operation which is exceedingly simple and which is free from the dangers that attend a laparotomy. It is entirely free from the subsequent danger of hernia. If we can attain just as good results by operating through the vagina as we can by doing a laparotomy, then, I say, by all means that is the operation of choice. Whether it is necessary to resort to the method described by Dr. Ries or whether it can be accomplished in a simpler manner, is a question. I operate through the anterior fornix. I make a transverse and then a longitudinal incision along the whole anterior wall of the vagina, dissect up the bladder, pull the uterus down into the vagina and draw down the appendages. Through this incision I am able to do any amount of conservative work on the appendages. After I have completed the work in that direction, I shorten the round ligament through the same incision. I draw them up, double them on themselves, stitch them together with three stitches and pin the loop to the anterior face of the uterus. I believe Dr. Dudley suggested the latter step. My results have been most satisfactory. I first used catgut ligature, but it absorbed too quickly and I had three recurrences. I now use silk and in six years have had no failure so far as recurrence is concerned. My results in the matter of pregnancy and subsequent delivery have been most satisfactory. I believe the true method of treating this condition is to do it through the vagina, and at the present time the best method is the shortening of the round ligaments.

Dr. W. H. Humiston, Cleveland, Ohio—It seems to me that Dr. Ries' operation is the most feasible one where an operation is necessary. I have but one theoretical objection: I do not believe that the round ligaments support the uterus. I think they act as guy-ropes, and prevent the retrodisplacement. If they are shortened to the extent described, will it not complicate the bladder space, and will it not produce fr quent micturition?

I can not agree with the statement that displacement c the uterus produces no symptoms. A retrodisplaced uteru remaining in that condition any length of time becomes congested, and a little later inflammation arises, and symptom of this condition is evidenced by pain, leucorrhea, backach and headache, and is also followed by indigestion, constipatio and nervousness. The intra-abdominal pressure, when th uterus is in its normal position, is on the posterior surfac of the uterine body, and straining at stool carries the fundu away from the rectum. Misplace the uterus so that the intra abdominal pressure is exerted on the anterior surface of th uterus, and you have it crowded into the concavity of th sacrum and acting like a ball valve in preventing the fece from passing.

I studied the Alexander operation, saw it done, and di several myself, but without permanent relief to my patients I believe it is an operation not indicated if you have disease appendages. Shortening the round ligaments will not reliev the disease in the tubes and ovaries. In every simple case c retrodisplacement, without diseased appendages, I find curetting the uterus, putting it in place and supporting it with pessary, reduces its size and hardness. When you remov the pessary six or ten weeks later, the uterus will remai in position. If you have diseased appendages you can, b operating through the vagina as Dr. Ries described, take car of that condition. If necessary you can open the posterio cul-de-sac, separate the adhesions, pull down the appendage and either do a conservative operation or remove them, if hopelessly diseased. In cases of diseased appendages with adhesions, remove them and suspend the uterus. If you leav diseased appendages, you will fail to relieve the sufferin patient.

Dr. Seth C. Gordon, Portland, Me.—The particular way I want to criticise Dr. Martin's paper is that of a protest against this so-called conservative surgery. Will any reasonable man, woman or child tell me why, when the abdomen is opened and the appendages are removed, you should stitch the uterus up to the abdominal wall? It is simply a gestation bag which is never to be used for gestation. The ovaries and tubes are gone and pregnancy can not possibly take place The function is lost, but the uterine arteries continue to pump blood into this bag and you have a congested condition of the pelvis as long as those arteries are intact. I do not wonder that the cases reported as not well did not get well; because this condition of things existed. I believe in conservatism but I believe in a conservatism which conserves a woman's health. We are bound to look as it from the patient's standpoint. I do not want it to go out from this Association that we are in favor of removing the uterine appendages and then stitching the body of the uterus up to the abdominal wall. Get rid of it. It is of no further use to the woman and often is the source of a great deal of pain and suffering later on. "If an eye offend thee, pluck it out." I do not know whether you all believe in the authority, but I think it is pretty good. Let us consider this thing carefully, and let us act sensibly.

I can see no reason for leaving these organs which are of no possible use and which contain arteries which are pumping blood into them all the time. In the days when they sacrificed so many uterine appendages, they said the patients did not get well. They did not in many cases, simply because the uterus was left behind. I protest vigorously against any such teaching and against any such practice. We ought to be guided by common sense.

Dr. A. Goldspohn, Chicago—I want to congratulate my colleagues for the very commendable papers which they have given us and particularly because they both squarely denounce direct or immediate fixation of the uterus to anything. They do not do any more than to anchor the uterus by means of some ligaments. With regard to Dr. Ries' ingenious operation, I have a few objections that weigh very seriously with me when we consider not merely the immediate welfare of the patient but more especially the ultimate results, those which pertain to the condition of the organs after the woman has had one or more children. The round ligaments are the only things that can be rationally used as a means to cure retroversion, for the reason that they are a part of the uterus. The musculature of the uterine body passes directly into these ligaments. They are arms of the uterus, and its only arms, and as such they undergo both evolution and involution with the uterus during and after the pregnancy respectively. Therefore they are the only rational and effective means, no matter what, if anything, was their office previously. The only question is: Which is the best way of using them? While I do not believe that Dr. Ries' method is the best, the same objection pertains to the shortening of round ligaments through the abdomen, namely, that the shortening is secured by doubling up the strong portion of the ligament, and not by strengthening or eliminating the weaker parts. The round ligament is not a structure of uniform size, but is like a slender pyramid. Near the uterus it is from six to nine times larger and stronger than where it enters the abdominal wall; and all that these vaginal and ventral operations can do is to double up the strong proximal ends and leave the slender distal parts near their insertions as weak as ever. Therefore, the results can naturally not be as good as when we get at these ligaments from their distal ends, double up or eliminate their distal slender portions, and bring their central strong parts alone into use, as is done in good Alexander operations.

With regard to the conservative operations on the appendages, in general, there is this plain fact which was alluded to by Professor Sanger, of Leipsic, five years ago, that in order to get those organs to present themselves for treatment we have to draw them a great distance away from their normal habitat, i. e., the lateral wall of the pelvis, and do violence to their lateral supports. If they are already prolapsed we improve their condition, but not their position, and the improvement of condition will be only of temporary benefit. Sanger expresses a fear that vaginal operations upon the appendages are likely to induce such prolapse. Furthermore, we can not get them into position, that they will lie there without uncomfortable tension. We can not do as good work as when we draw the ovary into the ventral wound, and not at all as well as we can if we draw it into the dilated internal inguinal ring in conjunction with an Alexander operation. The reason why the ovary and ampulla of the tube can be drawn into the dilated internal inguinal ring and that they will lie there so well for us to do work on them, is that the fixation point of the ovary and ampulla of the tube is immediately back of the internal inguinal ring and right near it. Simply put your finger into the ring to the second joint and you are upon it. The organs are swung around in a forward direction, and out they are. You can not draw them into any other opening in the abdomen or pelvis as easily as you can in that opening.

In regard to the whole business of surgery for displacement, most operators have not demanded enough as to ultimate results. The operators who have merely followed their cases up to their next childbirth have not done enough. If no catastrophe has occurred in the next labor, they have called it well and good. That is not sufficient, however, and none but Alexander operators have done better. They have followed their cases and have carefully noted the status of their pelvic organs after subsequent labors. We have now some 70 cases, all of which have had one or two full-term births after Alexander operations. Out of that number there are no recurrences of retroversion except two that occurred in the clinic of Zweifel in Germany, and in these the technique was defective and the indications wrong.

I beg the author of the term ventro-suspension, who has done that operation more than any other man in the world, and all the gentlemen who have preferred other operations to the Alexander, to follow up their cases not merely to the next baby, but beyond that point, and to report the status of their pelvic organs.

Dr. Howard A. Kelly, Baltimore—I am indebted to Dr. Ries for adding still another of the number of operations devised for the treatment of retroflexion of the uterus, of which I hold a list of over 50 in my hand. These have all accumulated since my first paper on this subject in 1887. I do not myself hold to any one procedure but I think a variety of different methods are valuable under different conditions. I am particularly interested in Dr. Ries' new method, as it reminds me of some work of my own not altogether dissimilar. I have, for example, in several instances, operating through the abdomen, utilized the round ligaments by cutting them off near the uterus, and then drawing the ligament over the cornu uteri and suturing it into a little incision at the back of the uterus. In another instance I attached the ligament by doubling it on itself and passing it under the tube close to the uterus and suturing it there.

My usual method consists in attaching the uterus by its posterior surface just over the top of the fundus, by two silk sutures, to the peritoneum and sub-peritoneum fat behind or above the symphysis. This is a more rational operation than that of shortening of the round ligaments, for if you will examine an anteflexed uterus when the abdomen is open, you will see that the fundus lies well anterior to the ring in the wall of the abdomen by which the round ligaments take their exit. The round ligaments have nothing to do with the support of the uterus under normal conditions except in pregnancy.

The final result of my methods is an attachment of the uterus to the abdominal wall by one or two thin peritoneal strings; the womb thus lies in a posture of easy mobile anteflexion. There should be no fixation of the organ such as follows scarification of the peritoneal surfaces.

I have made an analysis of some 214 cases of suspension, to study the effect of pregnancy on the new position of the uterus when the operation is done strictly as I desire. Out of this number 43 became pregnant and in no case was there any special difficulty with the labor. As to the permanent success of the operation, the uterus remains in its new good position in all but about 2 per cent. of the cases. I consider my operation of suspension the simplest and safest of all. It can be done through a tiny incision, and done rapidly, and I have never had a death from the operation nor any serious immediate result.

Dr. A. McDermid, Chicago—The question of the effect of these operations on pregnancy is an important one. A short time ago I reversed this process by liberating the adhesions in a case of pregnancy. I had operated upon the young lady about two years before, removing one ovary and doing a ventro-suspension of the uterus. She afterward married and became pregnant and at about four and a half months, finding that she was suffering great discomfort from the fixation of the uterus, I opened the abdomen, placed a double ligature around the band of adhesions and dividing these, allowed the uterus to ascend. So far as I am aware, this is the first instance of this operation. Professor Hirst, in his text-book of obstetrics, recommends, when labor comes on and there is dystocia from ventral fixation, to open the abdomen, free the fixation and allow the uterus to assume its normal position. I consider it advisable to do so in the early months, enabling the uterus and its contents to develop normally.

Dr. Ries, in reply—Dr. Kelly's suggestion can be carried out through the abdomen, but not through the vagina. I have thought out all the possible uses of the round ligaments in operations for retroversion, and to-day I use the method I described. There are several other methods. For instance, you can take the round ligaments and cut off a piece, then make a slit in the uterus in which you insert the ligament. By this method there is less wounding of the uterus than in the tunnel method. As to whether the bladder would be interfered with by my operation any more than it is interfered with by the normal round ligaments in the normal position of the uterus, or where the uterus has been retroverted, or where the round ligaments have become elongated, I always allow for sufficient mobility so that the bladder can distend between the uterus and the abdominal wall.

Dr. Kelly said he could not understand how the ligaments which he makes can hold after one or two labors. He expects them to break or stretch. That is a very important admission, one which I would not make for my operation. It means that if that retroversion must be treated, the woman must be operated on after each pregnancy. Dr. Goldspohn has brought out the points which we have discussed in Chicago before. The statement that the distal portion of the round ligaments is thinner than the proximal is correct. What about it? When Dr. Goldspohn looks for the round ligament in the inguinal canal he almost invariably finds it. It is not pulled out, and if it holds on then it will hold on just as well after I have folded it on itself. Dr. Goldspohn quotes Sanger. Sanger does not say what Dr. Goldspohn makes him say. Sanger says as follows: "If other observations should prove to be a fact what I from my personal experience will not at all represent as firmly established, namely, the fact that the tubes and ovaries may become prolapsed after a vaginal celiotomy, then, etc., vaginal operation might be objectionable." That is not what Dr. Goldspohn makes him say. Dr. Goldspohn also mentions that it is difficult to operate on the appendages through the vagina, that it is difficult to do delicate conservative operations on the ovaries and tubes. Operations on the tubes are as easily performed through the vagina as through the abdomen if you only know how. The first case I operated on after the method published here had a double salpingostomy and the woman conceived three months after the operation.

As to puncturing the ovaries, I do not want to say much. I merely will say that all those little cysts that are punctured and scraped and cauterized are normal follicles, a trifle enlarged, and the microscope reveals a perfectly normal ovum in each one. I have been doing this operation for retroversion for over two years and can not, of course, know what the results will be ten years from now. It is desirable that we examine these cases again and again after labor, but unfortunately we can not always do it ourselves because patients move away from the city. It is important to mention this here because we have to call on the collaboration of all practitioners to keep the operators informed of the results of their operations years afterward.

Dr. Martin, in reply—From the discussion it must be apparent to all that the operation for retroversion resolves itself into a matter of personal equation. One operator follows one method and succeeds because he has become proficient in it, and another follows another method and is also successful. My paper presented to-day represents five years' work. It is work that has been thoroughly tested and I have brought no case in which less than a year elapsed since the operation. Therefore, I bring results and it seems to me that results like these ought to be commended. I believe they will be.

As to Dr. Goff's criticism on the occurrence of a hernia, it is true that operations through the abdominal wall improperly performed are followed by hernia. It is also true that if operations are not properly done through the vagina we will have a hernia. A number of such cases have been reported. In the cases reported by me here to-day, I had no hernia. If a hernia had occurred, I certainly would have put it in the paper, because I did not cover up the failures.

In the treatment of diseased appendages, and in doing work on the round ligaments, the vaginal route is the route for experts, but it is ridiculous for us to expect any one who is not an expert to perform the operation as described by Dr. Ries with the same degree of facility as he does. Those of you who have done vaginal hysterectomies realize that Dr. Ries' operation is a very difficult one. While Dr. Ries might do that operation on my wife if she required it, I would not have the rank and file of surgeons do it. Why? Because the first thing would probably be the wounding of the bladder; second, the opening of the peritoneum at a point where it is difficult not to do it, and third, all the work must be done in the dark. The Alexander operation, as I have described it, has no mortality; the operation of shortening the round ligaments through the vagina or anywhere where the peritoneum must be opened, has a mortality of at least 5 per cent. and that in the hands of experts.

Dr. Humiston criticises the operations for ventral fixation and Alexander's operation where there are no adhesions. He states that no operation on the round ligaments should be necessary unless it is also necessary to open the abdomen for the purpose of doing repair work on the appendages. I do not agree with him, and I believe that no gynecologist who does much of this work will agree that every case of retroversion can be cured without an operation, even if there are no adhesions. I treat many of these cases, and every case of simple retroversion where there are no adhesions nor diseased appendages. I treat for months with the idea of causing the ligaments to shorten and to restore conditions to their normal state. I am sure that I work over these cases carefully and yet I only cure one case out of four by office treatment. The other three have to submit to some operation and I do not believe it is necessary to go into the peritoneum in order to shorten the round ligaments. In these cases where I am absolutely positive of normal appendages I shorten the round ligaments according to the method described. Dr. Humiston also criticises opening the abdomen for operations for retroversion. I did not advocate this, except where there is disease of the appendages. Of the 173 cases reported by me, the appendages were removed in all but 29. Therefore, the appendages were repaired in only 29 cases.

Dr. Gordon criticises any one who will not clean out the pelvis completely when it is necessary to open the abdomen. The reason we see many cases of removal of the appendages followed by severe sequences when the uterus has been preserved, is because the uteri were not suspended at the same time. The appendages are removed, the uterus curetted, and the abdominal wound closed. The uterus will invariably become retroverted. In every case of removal of the appendages I suspend the uterus on a strip of peritoneum so that it has a movable support, and no retroversion will result. Furthermore, I preserve to the woman a uterus which is a matter of a great deal of sentiment. The uterus is also a support to the abdominal viscera. It supports the vault of the vagina and the woman walks about without feeling that vacuum in the pelvis that she invariably feels if the uterus is removed. If you remove the uterus entirely it also means the removal of the top of the vagina, and if you do this, the vagina is shortened.

REPORT OF A CASE OF UNUSUAL TERTIARY MANIFESTATIONS.*

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The patient, H. H., aged 22, had scarlet fever, followed by a severe attack of Bright's disease, at the age of 3 years. He made a speedy recovery, and was in good health up to September, 1899, when he contracted syphilis, while at school. The disease was recognized by his school physician, and for several months he was kept on the usual anti-syphilitic treatment. Upon his arrival home, however, in the summer of 1900, he decided not to reveal the fact of his infection, even to his family physician, and he gave up all medication. In August he enlisted in the war with Spain, and while in camp contracted intermittent fever. When he returned home in the autumn, he was much debilitated and had several paroxysms of what his family physician, in the absence of a history of specific disease, and, indeed, not suspecting it, on account of his long acquaintance with the family and the high moral character of the patient, diagnosed as malaria and treated accordingly for several weeks. Failing, however, to get the usual satisfactory results and observing that the patient continued to lose flesh and strength, he decided to get a specialist's opinion on some of the more important features of the case, and therefore referred him to two of Philadelphia's leading physicians and medical teachers, the one an ophthalmologist, and the other a general diagnostician.

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* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, W. E. Casselberry and J. N. Mackenzie.

The ophthalmologist informs me that the visual acuity was normal; there were no external evidences of disease, except some prominent baggy swellings on the under lid of each eye; the iris was healthy, and the media were clear. In the right eye the following striking picture of neuro-retinitis was revealed to the ophthalmoscope: the nerve-head was swollen, its summit three diopters above the general fundus level; the edges of the disk were obscured by a grayish-red, striated exudate, and the retinal veins were swollen and tortuous. For a distance of two or three disks diameters from the optic-nerve head, the nerve-fiber layer of the retina was edematous, while around the macula lutea was a delicate, star-shaped halo, made up of radiating white lines in the superficial retinal layers, such as are characteristic of Bright's disease. In the left eye a similar picture of neuro-retinitis, but of much greater intensity, was observed and the star-shaped halo of radiating white lines surrounded the macula lutea. There was, in short, a severe neuro-retinitis, with the lesions at the center of the eye-ground, that have been regarded as pathognomonic of Bright's disease. He also informs me that the ophthalmoscope failed to reveal any of the classical ocular symptoms of specific disease, and that it was the first case that had come under his observation in which the characteristic fundus picture of albuminary retinitis was simulated by the retinal lesions of syphilis.

With the above history, as described by the family physician and the ophthalmologist, the patient was referred to a distinguished diagnostician for diagnosis and for recommendations as to the treatment. In explanation of the diagnosis, it should be borne in mind that he was confronted with the following history: Scarlet fever at 3 years of age, followed by a severe attack of acute Bright's disease, from which he made a speedy recovery, and continued in good general health up to September of last year. He then had an attack of what was supposed to be malaria, in which he lost flesh and strength, was weak and nervous, had headache, and some cough, with considerable nasal and faucial catarrh.

The examination of the blood revealed, hemoglobin, 80 per cent.; red blood corpuscles, 4,800,000, and white blood corpuscles, 5600. The examination of the urine, mixed specimen, revealed a trace of albumin, some pus, hyaline and epithelial casts, and no red corpuscles. Examination of the chest failed to show any active thoracic disturbance.

The above symptoms, namely, anemia, emaciation, asthenia, albuminuria, tube-casts, and an early history of acute Bright's disease, grouped with the eye-ground conditions, as described, presented a fairly good clinical picture of interstitial nephritis. It will be remembered that the history of specific infection was, at this time, known only to the patient and his physician at school.

In February, of the present year, I was called in consultation, by long-distance telephone, to see the patient, who was then suffering with exacerbated throat symptoms. He was still losing flesh, weak and anemic; he had a cough with expectoration and had considerable pharyngeal catarrh with painful deglutition. The physician in charge now feared that he was dealing with a case of tubercular laryngitis. Before I arrived, however, the patient had grown anxious about himself and called the attention of his physician to a deep, sharply-defined ulcer in the glans penis, and made a confession of his previous infection, dating back about eighteen months.

With these new developments in the condition and history of the case, my own work was comparatively easy. A pharyngoscopic examination revealed a single ulceration confined entirely to the lingual tonsil and involving the major part of this gland. The character of the ulceration was typical of the tertiary form of syphilis, and this fact, together with the history as now revealed, made the diagnosis practically certain, and we immediately placed him on the usual mixed treatment, with most satisfactory results. The ulcerative processes at once lost their acute character and began rapidly to heal.

Beyond the usual protective and antiseptic dressings for the penis, and a cleansing gargle for the pharynx, no local treatment was used, and within a few days the patient was out of bed, his appetite increased enormously and he was able to swallow without any difficulty whatsoever. He gained in weight and his general physical condition almost immediately began to approximate the normal.

The following are some interesting features of the case and some conclusions that may be drawn from it:

1. It illustrates some of the difficulties of diagnosis in syphilis when the history of infection is withheld.
2. The case is interesting, because of the absence of the usual secondary manifestations.
3. This condition of the eye-ground is rare in syphilis, so much so that the disease was not suspected by the ophthalmologist consulted.
4. So far as I know, it is the first case to be reported of syphilitic ulceration confined to the lingual tonsil.

DISCUSSION.

DR. W. E. CASSELBERRY, Chicago—I would supplement the essayist's description of syphilitic ulceration of the lingual tonsil by mentioning a case in brief. Syphilis was acknowledged, but notwithstanding this, from a mistaken microscopic examination, the man had had performed a pharyngotomy and had a large mass removed under the supposition that it was carcinoma. Ulceration continued, until under my observation it healed completely with anti-syphilitic treatment. The ulceration was confined to the lingual tonsil and immediate surrounding parts of the base of the tongue. I think if we examine carefully we will find this lymphoid tissue at the base of the tongue is invaded not infrequently, although usually in combination with infiltration or ulceration of the other lymphoid structures. Ulcerating condyloma is one of the most characteristic manifestations of syphilis, often appearing within a period of six months to a year after the primary infection. It is easily confounded with true gumma, which rarely appears *that* early. It is capable of causing considerable destruction of lymphoid structures early in the history of syphilis, whether the lingual faucial or pharyngeal tonsil, but the ulceration is not as deep and extensive as that which results later from regular gumma.

DR. GEORGE C. STOUT, Philadelphia—The case of Dr. Makuen recalls to mind one referred to me about a year ago by one of our Philadelphia physicians. It was that of a woman 40 years of age, a trained nurse, which the physician had been treating in a desultory way for some months previous, but which failing to respond to "the usual remedies," was referred to me. The fact that she was a trained nurse may explain why her history had not been more carefully gone into.

The first glance showed mucous patches on her tongue, tonsils and buccal mucous membranes. She also had syphilitic eruptions on both elbows and on both legs. She was single and of undoubted good morals so far as one can tell. She gave the following history: A year previously she had nursed her sister-in-law through a confinement, after which she had relieved the milk of an "abscessed" breast by sucking out the milk, "there being no other means at hand." In a few weeks her mouth became "sore" and this was followed shortly by a general eruption over her body, which, however, disappeared in some months only to be followed by her present stubborn sore throat. Further inquiry showed that the sister-in-law was suffering from syphilis. This formed the complete chain of evidence with the resulting disappearance of symptoms after anti-syphilitic treatment of the nurse. Here, then, was a case of syphilis going from house to house nursing the sick while in the contagious stage and who thought she was rendering the best medical attention.

DR. MAKUEN, in reply—The case was interesting to me for two reasons: 1, because the real disease, syphilis, and the manifestations of its infection had escaped entirely the observation of five skilled physicians; and 2, because with no apparent secondary symptoms whatever it appeared in the form of a tertiary ulceration confined strictly to the lingual tonsil. The report also emphasizes the importance of obtaining accurate histories in these cases and the serious consequences that may follow a failure to gain the confidence of our patients. If, as Dr. T. Duncan Bulkley suggests, we could remove from the popular mind the stigma attached to this condition by teaching the fact that it is an infectious rather than a venereal disease, we might be able to get, in many instances, a more accurate history.

SYMPTOMS OF TYPHOID FEVER IN INFANCY AND CHILDHOOD[*].

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A number of articles on typhoid fever in children have appeared within the last few years. Among these may be mentioned those of Schavoir,[1] Adams,[2] Weill and Lesieur,[3] Haushalter,[4] Glenard,[5] Variot and Dévé,[6] Jacobi,[7] Roemheld,[8] Morse,[9] Stowell,[10] and others.

I have also gone into the matter with some care in a previous publication,[11] and I shall therefore on this occasion make no effort to give any statistical consideration to the symptoms of the disease as seen in children, but content myself with a brief expression of what seems to me to represent most generally accepted opinions, and more especially my own views on the subject.

The symptoms of typhoid fever as occurring in children often differ materially in many respects from those seen in adult life. To insist that the cardinal symptoms must always be present in early life would lead us into frequent failures to make a diagnosis. It was, indeed, this tendency to impose the symptoms of one period of life on another period which largely accounted for the former total failure to recognize typhoid fever in infancy; an error now rapidly disappearing with the employment of the test for the serum reaction of the disease. Equally important, too, in accounting for the present more frequent recognition of typhoid fever in infancy, is the fact that we are now more on the alert to detect it.

Anyone who gives the literature of the disease a careful, unprejudiced study can not fail to be convinced that the affection is far from rare in infancy; not that it is relatively as common as in adult life, or even as in childhood, but that it is an affection which anyone thrown much with disease in infancy is liable to run across repeatedly. This is certainly my own experience, and I have no reason to believe it is unusual.

Two methods of onset may be called characteristic of typhoid fever in early life. In the first the peculiarity is the indefiniteness. The great degree of malaise and fatigue which render the adult in most cases unable to be about is usually absent in childhood. The walking-typhoid of adult life is the rule in children, so far as onset is concerned. It is a common experience in dispensaries to have a child brought complaining only of loss of appetite and slight indisposition, probably with some headache. The physician is the first to discover that there is fever, the mother having noticed none. Visits are repeated on several days, the temperature keeps up, and finally, based principally on exclusion, the diagnosis of typhoid fever is made, although the child scarcely feels ill. At last, perhaps, the development of spots, or the presence of the serum reaction makes the diagnosis certain, and the child is sent to bed on general principles, and not because it wants to go.

The second form of onset is characterized by its suddenness. The child is in some cases taken with vomiting and has decided fever from the start. In other cases there are two or three days of fever and malaise, and then, perhaps, the roseola is discovered. In some of these latter cases the suddenness is only an apparent one, the onset having really lasted longer, but the earlier symptoms having been so mild that they were overlooked.

In infants the symptoms, both the earlier and the later ones, are most vague, especially as at this time of life elevation of temperature is so common from slight or undiscovered causes. Here the diagnosis is difficult, even after the disease is well under way, and very frequently only the presence of the serum reaction will distinguish the case from one of indigestion, enteritis, or influenza.

The course of the disease, as a whole, shows another peculiarity in children, in that the duration is, on the average, distinctly shortened. Fourteen to twenty days would be a general average length; perhaps, on the whole, about seventeen days. Abortive attacks lasting only a week, or a trifle more, are quite common in childhood. The whole course of the disease is, as a rule, much milder than in adult life. This is borne out, too, by mortality statistics, from which we can fairly place the mortality in children at from 3 to 5 per cent., probably nearer the former than the latter figure. Children under 5 years are less liable to die than those above it. This seems to be the generally accepted opinion. I note an exception in the recently expressed view of Glenard that the mortality in infancy is high.

We may with advantage take up the characteristics of the different symptoms, whether occurring early or later in the attack.

The typhoid roseola appears to be nearly or quite as frequently present as in adult life. It is but right to say that this is contrary to the experience of many observers, yet is in accord with many others. Many patients do not exhibit it, or at least it is not discovered in them. In others it is very abundant. I have seen it on the limbs, trunk and face. Weill and Lesieur describe a form which they denominate "exanthematic," on account of the great preponderance of rose spots as a symptom. The division does not seem to me to be justified.

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[*] This and the following three papers were read in a Symposium on Typhoid Fever at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Diseases of Children.

In a very few cases I have seen herpes labialis develop, but in so few that I can not state whether this is more likely to occur in childhood. At any age it is certainly very rare. Desquamation has been described by French observers as occurring frequently. Various accidental rashes have also been described, such as a rubeoloid and a scarlatinal eruption. They offer, however, no peculiarities in childhood.

Enlargement of the spleen is probably always present, although often, as in adult life, not discoverable. In the majority of cases this enlargement can be detected if sought for at the proper time and when the abdomen is not too much distended.

Respiration offers nothing peculiar, nor do affections of the respiratory apparatus. The statements of writers regarding the frequency of epistaxis in childhood vary very considerably. It is probably nearly as frequent as in adult life. The pulse is often unusually slow as compared with the rate which one would expect for the same elevation of temperature in other diseases. This is, as we know, also true of typhoid fever in adults.

The temperature in typhoid fever in children runs a course similar to that in the adult disease. It is, however, subject to still greater variations in early life. Not infrequently it rises rapidly without the usual step-like ascent. Often it remains high at the acme of the disease with little tendency to morning fall. Very often it falls toward the end of the attack with much greater rapidity than in adults. Indeed, the fall may be almost critical at times. The remittent character of the last part of an attack of adult typhoid is very liable to be absent in children. Quite certainly, as already pointed out, the temperature continues elevated for a decidedly shorter time than in adult life.

The tongue is not as liable to become dry as in adult life. In some instances, however, especially in later childhood, this symptom is not infrequently seen. Vomiting is a very common initial symptom, much more so than in adult life. Even later in the disease it is sometimes a most troublesome symptom. I have seen it the direct cause of death. Diarrhea is, in my experience, much more liable to be absent than present. This is the experience also of many others, especially in the cases occurring in early childhood. Certainly diarrhea is not more common than constipation at any period of childhood. Abdominal distension is not often a troublesome symptom, although often present to a considerable extent. This is in sharp contrast to the tympanites so common in adults. There are exceptions to this rule, and in these the distension may be excessive. Abdominal tenderness is seldom marked. Hemorrhage is of very rare occurrence. When it does take place it is nearly always in cases in later childhood, and especially in those over 9 or 10 years of age. I have seen it in one or two cases only, and then not severe. However, severe and even fatal hemorrhage has been reported. The infrequency of hemorrhage doubtless depends on the much less pronounced development of intestinal lesions, generally, but not always, characteristic of childhood. The same may be said of perforation, a very uncommon occurrence in typhoid fever in childhood, and almost never seen except toward the end of this period. I can recall perforation in only three or four cases in my experience; the youngest, I think, was 9, the oldest 12 years. Yet it would appear from medical literature that perforation may take place under the age of 2 years.

One of the characteristics of typhoid fever in children is the tendency for the nervous symptoms to predominate over the intestinal. This by no means implies that nervous symptoms are more common and more severe in the disease in childhood than in adult life. On the contrary, in the majority of cases in childhood they are trifling or absent. Extreme torpor and the tendency to coma, coma vigil and carphology occur much less often than in adult life. They are especially rare in young children. Headache is a common symptom, especially at the beginning, but no more so than in adults. Slight delirium is apt to occur, especially at night. A certain degree of apathy is very common and often one of the most characteristic symptoms, especially in young children.

A condition not infrequently seen at the beginning, and liable to cause confusion in diagnosis, is that of pseudomeningitis. Meningitic symptoms do, it is true, occur in adult typhoid also, but certainly less characteristically. As a rule, the diagnosis can be made easily, but I have seen typhoid fever begin in children with all appearances of acute leptomeningitis, and lead for a time to an entirely erroneous diagnosis. Aphasia is a nervous symptom rather to be considered as a complication. It is generally said to occur more frequently in childhood.

The discussion of the complications and sequels, as of the diagnosis, is beyond the province of this paper.

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THE DIAGNOSIS OF TYPHOID FEVER IN THE LABORATORY.

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Before taking up the subject which has been assigned to me, I wish to protest against the separation of laboratory and clinical methods in the diagnosis of this disease. They should not be thought of separately, but together. Both are fallible, and both should be used understandingly and with due recognition of their limitations. Otherwise they may well lead to erroneous conclusions.

The various laboratory tests which are used for the diagnosis of typhoid fever are, briefly, as follows: The Widal reaction; examination of the urine and feces for typhoid bacilli; examination of the blood for typhoid bacilli; examination of rose spots for typhoid bacilli; the diazo-reaction in the urine; the leucocyte count; tests which show the presence or absence of other diseases. The value of these tests is very unequal. Some are easy to carry out, some difficult. All have their limitations. As this, however, does not seem either the time or place to go into the details of the performance of these tests, I shall confine myself entirely to a consideration of their value and limitations.

THE WIDAL REACTION.

The Widal reaction is present in at least 95 per cent. of all cases of typhoid fever. It seldom appears, however, before the second week of fever, and may be delayed even until convalescence. In a small number of cases it may never be present; in others it may be intermittent. As it seldom appears before the beginning of the second week, the test is of little value up to this time. As it often appears late in the disease, and as it may be present only intermittently, typhoid fever can not be excluded by a single or even by repeated negative tests. Repeated negative tests, however, are very strong evidence against the existence of typhoid. The reaction may persist in the blood as long as twenty-one years after recovery from typhoid. Hence, a positive reaction in the absence of other symptoms of disease is not diagnostic of typhoid. A positive reaction, if the patient has not previously had typhoid, is almost certain proof of typhoid. A positive reaction may occur, however, in other diseases than typhoid. This error does not exceed 2 per cent. A negative reaction followed by a positive reaction in a dilution of 1 to 50 is absolute proof of typhoid.

The Widal reaction occurs under the same conditions and with the same limitations in children as in adults. There is some evidence to show, however, that in them the reaction appears earlier, is feebler, and persists for a shorter time than in adults. Owing to the comparative mildness and to the large number of atypical cases of typhoid in children, the Widal test is exceptionally important in them as an aid to the diagnosis of this disease. It is of especial value in two ways: 1, in ruling out many cases of gastro-intestinal disorders which might otherwise be mistaken for typhoid, and 2, in making a positive diagnosis possible in many mild cases which might otherwise pass unrecognized.

The Widal reaction appears in infantile typhoid as in that of older children and adults. The presence of the Widal reaction in infancy, especially in early infancy, is of less diagnostic value, however, than in adult life, as the reaction may be transmitted from the mother through the placenta or through the milk. The agglutinating power may be transmitted to the infant through the placenta, not only during the course of or convalescence from typhoid, but even when pregnancy takes place years after recovery. It is probable that it may also be transmitted through the milk after many years. When transmitted through the milk, however, it does not persist more than a week after the cessation of nursing. In early infancy, therefore, a positive Widal reaction is of somewhat less diagnostic value than in older children and adults. If the mother has had typhoid, and especially if she is nursing the infant, it should be looked on with some suspicion unless associated with other characteristic signs of typhoid. Examination of the mother's blood and milk and the cessation of breast-feeding will then assist in estimating the true value of the reaction in the infant.

This test, requiring, as it does, the maintenance and preparation of a fresh bouillon culture of the typhoid bacillus every twenty-four hours, is not a practicable one for the general practitioner. The boards of health of many states and of most of the large cities now make this test for the practitioner. All that is required of him is to send them a few drops of dried blood. This certainly does not appear impracticable, or even difficult. The laboratory can report on the blood in less than an hour. That certainly seems rapid enough.

EXAMINATION OF THE FECES FOR TYPHOID BACILLI.

Typhoid bacilli have been found in the stools of typhoid fever patients by many observers. They have been found in some cases as early as the third or fourth day after taking to bed. They have not infrequently been found in the stools before the appearance of the Widal reaction in the blood. At least three days, and more often four or five days, are required to prove their presence, however. Although they are as a rule present in the stools before the Widal reaction appears in the blood, yet, so much more time is required for their demonstration that but little time is gained. The two tests, therefore, are of nearly equal value as regards early diagnosis. In cases in which the appearance of the Widal reaction is delayed, examination of the stools may render an earlier diagnosis possible. The examination of the feces for typhoid bacilli requires a complete laboratory, however, and much expert knowledge. It is entirely impracticable for the practicing physician and is not, so far as I know, carried on as a routine practice by any laboratory in this country.

EXAMINATION OF THE URINE FOR TYPHOID BACILLI.

Typhoid bacilli can be found in the urine in from 20 to 30 per cent. of all cases of typhoid at some time during their course. As a rule, they do not appear in the urine until late in the disease and after the appearance of the Widal reaction in the blood. In a few cases, however, they have been demonstrated in the urine before the appearance of the Widal reaction. The isolation of the bacilli is less difficult than from the stools, requiring as a rule but two days. The limitations to the use of this test are otherwise the same as in the case of the stools.

EXAMINATION OF THE BLOOD FOR TYPHOID BACILLI.

Typhoid bacilli have been cultivated from the splenic blood, obtained by puncture, by several observers. This test is deserving of no consideration, however, as puncture of the spleen is an entirely unjustifiable procedure.

Recent observers have cultivated the typhoid bacillus from blood taken from the veins of the arm in 80 per cent. of cases of typhoid. They used from 15 to 20 cubic centimeters of blood. The results of other observers have been much less satisfactory. There are no data as to the time at which the bacilli first appear in the blood, and hence no means of comparing the value of this method with that of the Widal reaction. This test requires a complete laboratory, technical knowledge, and at least two days. At best it is positive in only 80 per cent. of the cases, compared with 95 per cent. of positive reactions with the Widal test. Tapping a vein is a much more serious and delicate procedure than pricking the ear. The results, therefore, hardly justify the employment of this more complicated method in preference to the Widal reaction except in exceptional cases, even if it were not impracticable for the practitioner.

EXAMINATION OF THE ROSE SPOTS.

Several observers have recently succeeded in cultivating the typhoid bacilli from the rose spots. If five or six spots were excised positive cultures were obtained in almost every case. This method is not applicable before the appearance of the rose spots or in those rare cases in which there is no eruption. In a series of comparative tests the bacilli were almost invariably obtained from the rose spots before the appearance of the Widal reaction. They were found, on the average, six days before the Widal reaction. The bacteriologic examination of the rose spots seems, therefore, to be almost, if not quite, as accurate a method of diagnosis as the Widal test and, moreover, to afford a positive diagnosis earlier in the course of the disease. The excision of several rose spots under aseptic precautions is, however, a somewhat complicated procedure. Moreover, the cultures must be made at once and must be examined by an expert with a laboratory at his command. These facts render this method, accurate as it may be, of but little value to the practitioner.

THE DIAZO-REACTION.

This test is a simple one and can be easily performed by any one with but little expenditure of time. The diazo-reaction can be obtained in the urine of most cases of typhoid, often appearing early. As it is also often present in tuberculosis, septicemia and other febrile diseases, the very conditions with which typhoid is most easily confounded, it is of but comparatively little value.

THE LEUCOCYTE COUNT.

The number of white corpuscles in the peripheral circulation is subnormal throughout the course of typhoid. The average number per cubic millimeter is 5000 or even less. Any increase above the normal number means some complication, such as hemorrhage or inflammation, or some outside influence, such as cold bathing. Together with the dimunition in the number of white corpuscles there is a relative increase in the proportion of mononoculear cells.

The estimation of the number of white corpuscles is a simple procedure, requiring but little time or experience, and is a perfectly practicable method of diagnosis for every one. It affords information of but little less value than the Widal reaction. The differential count of the white corpuscles is hardly more difficult but is rarely necessary.

In using the leucocyte count in the diagnosis of typhoid fever from other conditions, it must be remembered that the general rule applies here as elsewhere, namely, that the white count is only of value when the diagnosis lies between two diseases, one of which has a leucocytosis and one of which has not. For example, the white count is of no value in the differential diagnosis between typhoid and malaria, neither of which has a leucocytosis. On the other hand it is of great value in the diagnosis between typhoid and septicemia, the latter having a leucocytosis while typhoid does not. The diagnosis of typhoid, in the absence of any inflammatory complication or hemorrhage, must be viewed with much suspicion if the white count is above 10,000. The diagnosis of typhoid, made in the face of an inexplicable leucocytosis, is almost invariably wrong. An increase in the number of white corpuscles, in a case known to be typhoid, shows the presence of some complication, usually inflammatory. The information thus afforded should never be disregarded. The white count promises to afford a means of early diagnosis of perforation or even of threatened perforation. If, in addition to the pain in the abdomen, there is a progressive increase in the number of white corpuscles an actual or threatened perforation is almost certainly present.

TESTS WHICH SHOW THE PRESENCE OR ABSENCE OF OTHER DISEASES.

Although subordinate to the tests which demonstrate the existence of typhoid fever, those which reveal the presence or absence of other diseases are of great value in differential diagnosis. The examination of the blood for the plasmodium malariæ when there is a question of malaria and lumbar puncture when there is a question of meningitis are among the most important. The value of the leucocyte count has been already mentioned. Other tests will suggest themselves in special cases.

CONCLUSIONS.

Laboratory and clinical methods of diagnosis should not be separated. Both are important and both fallible. Neither is complete without the other. Laboratory methods must be used with due recognition of their value and of their limitations. Otherwise they may lead to erroneous conclusions. The Widal reaction and the leucocyte count are the most useful of the laboratory tests for the diagnosis of typhoid fever. They are easily carried out and within the reach of all. Certain other methods are of equal or even greater value but are impracticable for everyday use.

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THE TREATMENT OF TEMPERATURE BY DRUGS.

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Collective statistics of typhoid fever in children have placed the mortality rate at or near 5 per cent. Regarding treatment, no especial records have ever been presented, except those that may be questioned by reason of their representing certain plans of treatment, concerning which the profession has but little knowledge. Hence, as now constituted, it is impossible to substantiate certain classic methods by unquestioned results, and to arrive at some accurate conclusion, the statistical records of this disease in the adult should be considered for comparison.

As a diagnostic implement in the hands of the physician, the thermometer retains the first place, and, by its constant use, much reliance has been placed on what it shows, and its value remains unquestioned. By its use alone, we are very often enabled to diagnose typhoid fever, when many of the specific signs are late, or are not marked so as to be easily recognized.

THE AVERAGE DURATION OF THE FEBRILE MOVEMENT IN CHILDREN.

When using drugs in typhoid fever it is always well to know for what purpose. Hence, when giving drugs for fever this is a pertinent question: Is it given for the disease pure and simple, or for a complication? In young children the fever often lasts only from 8 to 14 days, according to Morse. The average course under 10 years is 19.3 days, and from 10 to 15 years, 22.6

days. After the age of 10, this course is much like that of adults.

ITS SIGNIFICANCE AS A DIAGNOSTIC SIGN, AS WELL AS A PROGNOSTIC SIGN.

Typhoid fever is perhaps the only disease in which the temperature runs higher in older than in younger children. Subnormality obtains at the end of the course, and a rise is due to intestinal or other disturbances. It may range from 101 to 106, and give no extraordinary disturbances. If the fever be high and long continued it will do harm by its influence on the nervous system. If the thermometric record shows a regular course it signifies a normal fever. If, however, it should drop suddenly we have the very same significance as in an adult—a hemorrhage cause. If the fever continues longer than the average time it is significant of a complication. If after the complication is recognized and treated, the fever rises again it has the same meaning—another complication. If it continues and is always present, never reaching the normal, and not following the natural course of typhoid fever, it may be due to an entirely different state of affairs, such as tuberculosis or the like. Therefore, while the thermometer may be useful in denoting the general condition of the child as regards the fever, it also helps us to discover some other reason why our patient does not recover so quickly, or why it should die.

ITS CAUSE, DANGERS, AND RESULTS.

The causes of the febrile movement may be said to be, the fever and a complication that may arise. If the fever lasts for a time and suddenly increases, we may have pneumonia. Or if the fever process changes, and, instead of the highest point being reached at night, it is recorded in the morning, we may expect tuberculosis. It is thus seen that the fever process is not entirely devoid of special significance, and that it does not simply record the progress of the disease, but it will tell us what the results will be, if too long continued.

A thorough knowledge of the febrile movement, its cause, and dangers is as necessary as of the drugs to be used. In children, the peculiar behavior of the febrile movement is as significant as in adults, the sudden fall denoting a hemorrhage, etc.

THE TREATMENT BY DRUGS.

In choosing a remedy in typhoid, the following significant fact must always be conspicuous: The simple disease is a self-limited one. I take it, therefore, that as a disease has a limited course, it should as a rule not prove fatal if the patient has the strength to exist so long. To say that we can "abort it," or curtail its length, is a misnomer. It is misleading, a delusion, and should never exist in expressing results in true typhoid.

We can, by the judicious application of our remedial efforts, modify a symptom, and change a dangerous one into one devoid of danger. But to attempt to prove by statistics that we cured a certain number of cases and by this or that mode of treatment, and then, to describe such cases and show that each one ran its prescribed course, is an error, and should be corrected. It may be true that under a certain plan of treatment, more recoveries are recorded than under another plan, but it is most strange that always the best results are obtained by the originator, although the experience of others may also prove this to be so. Careful investigation proves that no special specific virtues can be designated. For this very reason, I know of no drug which has stood the test of time or an impartial judgment, and I have used many. Some drugs are superior to others, but to assert that any drug specifically controls the temperature in typhoid fever would be to make an assertion that is untrue, and one that has never been proven by any experiment that I have undertaken.

During the past year I have investigated the subject of the treatment of typhoid fever. I entered on my work with all the enthusiasm and energy which this symposium inspired. If there was, or is, any remedy that I could say is the one to be recommended here, I felt that this work would be amply repaid. With an ambition to succeed, and an earnest desire to discover, I left the beaten path of conservatism, and entered on the one, which for the want of a better name I will designate, Liberalism. Here was permitted every latitude, and it gave me the chance, when opportunity offered, to use any of the so-called remedies which were offered for the treatment of typhoid fever, or the fever as a symptom. I did not limit the work to my own practice, but asked the assistance of my friends, the most energetic of whom was Dr. Alexander Klein of Philadelphia, whose knowledge of pathology and bacteriology helped greatly. I endeavored to make the tests as numerous as possible, and our methods as dissimilar as possible, though the results, in all cases, were the same. Therefore, my conclusions may be termed the conclusions of all who took part in this work.

The drugs first used were the so-named antipyretics, the coal-tar derivatives. The names are familiar to you all, comprising, antipyrin, phenacetin, acetanilid, thermol, terpin-hydrate, etc. I have used all these drugs, and although I must conscientiously say that I have found that some influence the fever, that is, reduce its height, yet I can not claim any particular virtue for any one drug. One of the so-called specific compounds for the treatment of typhoid fever took my fancy. It is on the order of the Woodbridge treatment, with numbers 1, 2 and 3. I followed its use as ordered by the originator, and the result was a failure. Indeed, I might add, that no matter what the name of any drug, if it was claimed that it had specific virtues in the treatment of the fever, or particular influence on the febrile movement, I would use it with such care as I could devote to a clinical experiment, and the results were always the same. The fever could be lowered and it might be kept low, as long as I used the remedy, but if persisted in too long or in too large a dose, it might cause a collapse. The only conclusion I have reached from the use of these specifics is, that their originators were neither clinician nor therapeutists, and that, if the report of cases were typhoid, there must be a mistake in the diagnosis. In true typhoid these so-called specific remedies had little or no influence. I saw some surprising results in using these antipyretics. For instance, with antipyrin, I have never seen any alarming depression, probably my dosage was too small; but with acetanilid, supposed to be free from this evil, I saw the result twice.

In the choice of a remedy of this group, I noted that many were ruled rather by routine than any distinctive choice. Hence, I met several physicians who believed in phenacetin, while the newer remedy, thermol, has a surprising number of adherents. The old-time mixtures—the fever mixtures—are still in vogue, and I can not say that, in disregarding these, we advanced greatly. In the use of the tincture of aconite or the like, there was never any fear of sudden heart failure, and for conservatism, it stands pre-eminent. I had several cases go through a typical typhoid with no other treatment for the fever than the well-known neutral mixture of the U. S. Pharmacopeia. In the Brand treatment, this mixture has its use, and as I have the greatest faith in diaphoresis as a remedy in typhoid ever, I mentioned it as a treatment. Quinin, either in mass or in divided doses, proved inert. I have never seen it influence the fever, and it does more harm than ood. In children, it should never be used, and, for the purpose of treating the fever, it has never shown hat influence which the coal-tar products always exhibit.

My method of applying drugs in the treatment of yphoid fever was as follows: If I found after three ays' use of any drug that it ceased to influence, I mmediately dropped it. If I found that for a particuar type, a drug was useful, I might continue its use as long as the symptom lasted. If I found that the drug acted beneficially, as in controlling pain, but the fever continued, I would hold to this particular drug and treat the fever. How? I will mention further on. If I found that an antipyretic would lessen fever and pain, I would continue its use, even into convalescence.

Following this as my rule in practice, my experience with so-called specific methods is limited. For, as soon as I found that the influence promised was a fallacy, a dream, or as one may curtly say, a delusion and a snare, I immediately dropped it. Thus I might summarize my experience and conclusions: Having used the many methods of treatment, claimed as a specific for the treatment of typhoid fever, or the fever as a symptom, I would formulate the following as a good rule to follow: One must have a distinct understanding of the meaning of the fever in typhoid, and its treatment by drugs. The chief question is not "what drugs are to be used?" but "when is it necessary to interfere?"

What is the meaning of the fever; and, why is it that this disease always presents a fever record? That the fever is but a protective reaction of nature, in order to combat the effects of the typhoid bacillus and its toxins, by attenuating the former, and counteracting the latter in aiding the speedy development of the antitoxin, is the opinion of all.

We know that the typhoid bacillus thrives best, and is most virulent, at the normal temperature of the human body, and that higher temperatures interfere, not only with its development, but even with its virulence.

Should not we consider it therefore a grave mistake to attempt the reduction of temperature evidently so highly beneficial within certain limits?

Would it not seem a very serious undertaking to treat typhoid fever by antipyretics, as a routine, having regard for neither the effects of the temperature, nor of the physiologic effects of the drug? What then should be our rule of practice? If a temperature, not too high, is of benefit, a temperature, long continued, is harmful. A temperature too high demands prompt interference, for it is well known that hyperpyrexia will produce tissue degeneration. That it will do so sooner in adults than in children is a well-known fact, and that some constitutions will more ably withstand a temperature that is harmful to others, all of you will admit. It is, therefore, imperative to individualize, to interfere only as soon as we consider the temperature higher than is compatible with the safety of our patients; i. e., high enough to produce tissue degeneration.

The ideal way of interfering would certainly be by an antitoxic serum. Lacking this at the present time, I consider Brand's hydrotherapy the foremost, be this in the form of a "tub," or "pack," or "sponge," according to the individual case, and the only method to be used for the reduction of hyperpyrexia.

Other antipyretics I have mentioned, only in order to condemn them, for they possess no specific virtue either in controlling the course of the disease, or influencing a hyperpyrexia, and, most certainly in a normal course, the necessity of an interference should always be a question.

A CASE OF MULTIPLE GANGRENE.

ASSOCIATED WITH CHOLANGITIS AND ADENOMA OF THE LIVER COMPLICATING TYPHOID FEVER.

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It is the object of this paper to report a case of multiple gangrene during an attack of typhoid fever. In addition to the gangrene, it was found upon autopsy that the child had suffered from a catarrhal cholangitis. An adenoma of the liver was discovered; this was an accidental finding.

History.—A. B., aged 21 months, female, came under observation on the fourth day of its illness. She was admitted to the Children's Ward of the Michael Reese Hospital, Sept. 25, 1900. Four days before admission the patient became ill, with headache and fever; she refused food, was dull and listless, slept most of the time, and her bowels were constipated.

Family History.—It is of great interest to note that the father of the child was ill in the male ward of the hospital at the same time, with a well-marked case of typhoid fever. The mother was well. The little patient is the only child.

Examination.—The temperature on admission was 103 F., pulse 130, respirations 28. The tongue was coated with a white fur. The examination of the thoracic organs was negative. The abdomen was tympanitic, the liver somewhat enlarged and the spleen was palpable. The extremities were negative. The reflexes were normal. The Widal reaction was positive.

On September 29, four days after admission, it was noted that there was a swelling about the face, over the hands, the legs, and the ankles. There was no pitting on pressure. The legs were held rigid. Palpation of the joints caused no pain. The pulse during the day was weak.

On the following day it was noted that the abdomen was extremely tense, the extremities were swollen a trifle more. The patient took nourishment with difficulty; the bowel movements were frequent and offensive. The urine was examined and found to be absolutely negative, containing neither sugar albumin nor casts.

From this time on, the temperature diminished somewhat, the swelling of the extremities and the distention of the abdomen became less, and for a number of days the child seemed decidedly better, though the temperature remained constantly high.

On October 7 herpes labialis developed. The pulse at this time was irregular and weak; it varied from 128 to 168 per minute. A note on the history sheet calls attention to the following: "There is a peculiar eruption on the back, neck and extremities. The eruption begins as papules, very soon becomes pustular and shortly thereafter areas of gangrene remain."

On October 11 it was observed that bronchial râles and some exaggerated breathing were present. The child grew weaker, it was difficult to feed her, she refused food as well as medicine. On October 12 she died.

THE AUTOPSY.

Distributed over the anterior surface of the neck, the lower portion of the face, the lateral aspect of the thorax and the entire back, also over the inner surface of the thighs and the upper third of the legs, are a number of areas varying in size from a pin-point to a silver quarter, showing in the various stages, papule, pustule, and ulceration with gangrene. This process is most marked on the back. There occurs on the back an area the size of a quarter, which is circular in shape, shows a great loss of skin, and has a considerable depth.

Heart.—The pericardium contains a small quantity of clear fluid and is smooth and shining; the right heart is dilated, the myocardium is pale and flabby. The pleural cavity is empty, the pleura negative.

Lungs.—The posterior portion of the lungs is firmer than the anterior; on section, they seem to be of a dark-reddish color; on pressure, a considerable amount of frothy fluid escapes, indicating hypostasis and edema.

Spleen.—The spleen is enlarged, the capsule does not wrinkle. The parenchyma on section, is fairly firm. Macroscopically, it shows a number of firm, deep-reddish areas, easily distinguishable over the surrounding pulp. These areas are somewhat wedge-shaped.

Kidneys.—The kidneys are pale, the cortical markings not pronounced; otherwise negative.

Liver.—The liver is very firm, reddish in color, somewhat larger than normal. The entire surface of both lobes is studded with a number of pin-point areas. Each has a yellowish center and a red periphery. In the inferior portion of the left lobe an area is seen which is about the size of a lemon; it is a new growth. It stands out quite sharply from the surrounding tissue, is irregularly circular in outline, and the central portion of the growth is of a white color and appears fibrous in character. The periphery is yellow and raised, giving the whole growth a nodular appearance. A section of the parenchyma of the liver shows it to be studded with yellowish areas like that described above.

Intestines.—The mucous membrane of the intestines is everywhere hyperemic; solitary follicles of the ileum and the Peyer's patches are swollen, but present no ulceration.

The stomach presents nothing of interest. The mesenteric glands are greatly enlarged, some of them being somewhat soft.

Bacteriological Examination.—Cultures made from the areas of gangrene showed the presence of staphylococcus pyogenes aureus. Cultures from the spleen showed a bacillus—probably that of typhoid.

Histological Examination.—The histologic examination of the gangrenous areas on the skin showed merely a loss of tissue, with micro-organisms at the base of the ulcer.

Dr. D. N. Eisendrath offers the histologic report on the liver sections:

The microscopical examination of the liver presents two points of interest: 1, the new growth—an adenoma in the left lobe; 2, the pin-head areas with a white center and a red periphery.

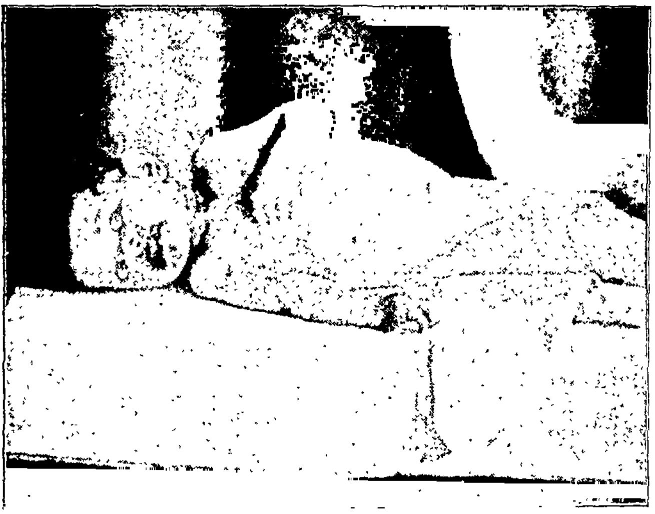
1. On section through the tumor in the left lobe of the liver, one observes that there are many columns of new liver cells not arranged in the form of acini. They are separated from each other by trabeculæ of connective tissue which seem continuous with that of Glisson's capsule. The most striking features are the large size of the cells and the drops of fat which they contain.

Whether to call this tumor an adenoma, or simply a nodular hyperplasia, is still an open question. Ziegler believes that they are true adenomata, although he thinks that there is no sharp line to be drawn between these and a nodular hyperplasia on the one hand, and an adenocarcinoma on the other. Orth states that there may be a true hyperplasia of the liver parenchyma, as where a large portion of a lobe has been destroyed by an abscess, syphilis, or echinococcus. He has observed a distinct hyperplasia resembling an adenoma, in granular atrophy and in a case of thrombosis of the hepatic vein. The same occurs in cirrhosis. The condition may be quite nodular, and may be single or multiple, varying from a pea to a cherry in size. He believes that if we call such a condition an adenoma, it would be better to call it a hyperplastic, to distinguish it from the tubular variety. In this latter form, there are columns of cells, many having a distinct lumen. Both of these varieties may easily change into a carcinoma.

2. The whitish areas, on section, were seen to be scattered uniformly through both lobes. In the left there was, in addition, the adenoma just described. Microscopically, these areas are seen to be due to a necrosis of the parenchyma adjacent to the interlobular vessels. The liver cells in these are swollen, do not take the stain, and show all signs of cell death. Around each bile duct near these necrotic areas, there is a very marked, round-celled infiltration. We have a typical inflammation of the bile passages (angio-cholitis) or biliary hepatitis, as Ziegler calls it, with the resulting necrosis of liver cells. The necrosis is most typically shown in specimens stained with methylene-blue or Bismarck-brown. Such stagnation may be due, either to stagnation of bile alone, or this combined with infection. If to the latter, the micro-organisms most frequently found as causal agents, both clinically and in experimental investigations, are the typhoid bacillus, the colon bacillus, the ordinary pus coccus and the distoma hepaticum.

Dermatological Report.—Dr. Lieberthal, who saw the case in consultation, offers a dermatological report, with the following conclusions:

"From my observations, I would conclude that in the course of a febrile disease there developed over the body of this patient a number of lesions consisting of red macules, papules, umbilicated vesicles, and ulcers with a dirty-gray, moist slough, or a dry, dark, bluish-black eschar. The ulcers have steep margins, are mostly oval, and vary in size from a split pea to that of a cent. Most of these lesions are surrounded by a red border, which in itself is quite interesting. The stage of de-



velopment of the lesions seems determinable by their appearance. The first lesions are apparently macules, on which basis there developed papules and vesicles, and out of these, ulcers, at which time the borders became broader and ill-defined. The whole eruption appears to be a multiple embolic process in the vascular system of the upper corium, leading to gangrene of the type called infectious, multiple gangrene."

Special attention has recently been given to the subject of gangrene complicating typhoid fever. The early, and first contributions to this subject were made by French authors, Boerglois[1] and Bourghet.[2] Gangrene occurring during or directly after typhoid must be extremely rare. Keen[3] observed that so rare is this complication that most practitioners, and even some men of vast experience in large hospitals, have never seen a case. Holscher,[4] in 2000 fatal cases of typhoid, does not report a single case. Beltke,[5] in 1420 cases, found only four cases of gangrene, all limited to the toes. Most of the cases of gangrene which have been reported have involved an extremity or a localized area. The cases of multiple gangrene occurring as it did in our case, are rarely reported complicating typhoid.

The form of gangrene cited in this paper has been described under a variety of names. Hutchinson believed that this rare skin disease was a complication and sequel of varicella, and hence he gave it the name, varicella gangrenosa. Stokes[6] termed the condition pemphigus gangrenosus. The disease has also been described under the names dermatitis gangrenosa, and infective, multiple, cachectic gangrene. H. Radcliffe Croker,[7] who made an excellent contribution to this subject, divides the cases which came under his observation, into three classes:

Class 1. No antecedent varicella. Of these, there were five cases.

Class 2. Antecedent varicella. Of these, there were three cases. An autopsy in one case showed, among other things, minute infarcts in upper lobe of right lung; liver was fatty.

Class 3. Ulcerating eruptions after vaccination. Of this class, Croker reports but one case.

This disease does not only occur after varicella and vaccination; its occurrence has been observed after measles, or it may occur in any case where cachexia follows some severe illness. Children suffering from intestinal diseases or tuberculosis, have been observed to fall ill with the disease. Croker thinks that syphilis and rickets predispose to the condition.

In recent literature, several cases of gangrene have been reported as occurring during or after typhoid fever and some of the other acute infections. These cases occurred mostly in adults and are not identical with the case which forms the subject of this paper, either in their distribution, the form and nature of the lesions, or in the course of the disease.

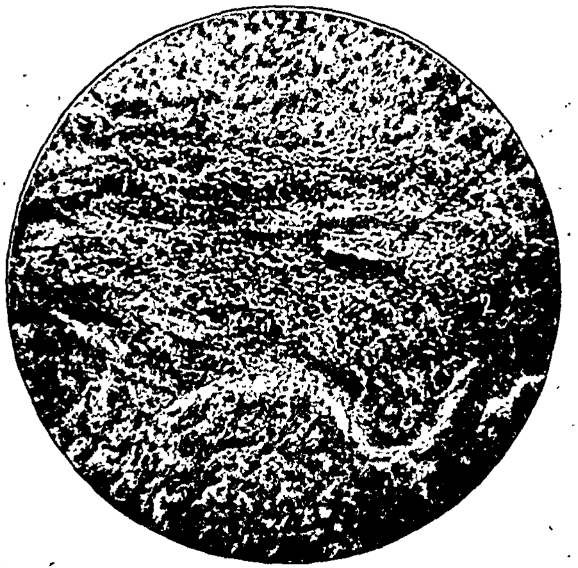
Hartzell[8] contributes a paper on infectious, multiple gangrene of the skin. This case occurred in an adult woman; it was marked by the occurrence of somewhat large, multiple, gangrenous areas, and was very chronic in its course. The case did not present the evolution of papule, vesicle, pustule and gangrene which characterizes the infantile variety.

Osler[9] reports a case of multiple gangrene complicating malarial fever. He observes that these cases occur in measles, typhoid fever, typhus fever, scarlet fever and diphtheria and malaria. In his case it was observed that there was gangrene, or a gangrenous condition on the palmar surface of the four fingers of the right hand, over the dorsum of the foot, the left buttock and the occiput.

Dr. Franklin Stahl[10] contributes a report of gangrenous dermatitis complicating typhoid fever. He reports ten cases. Most of these occurred in soldiers of the Spanish-American War, who had been sent home ill from southern camps. He found that the lesions were distributed mostly over the trunk, face, arms and thighs. In two cases he made autopsies. He found of particular interest, infarction of lungs and kidneys and ecchymotic areas in the stomach.

CHOLANGITIS.

More attention has recently been paid to the study of the liver and gall-bladder in typhoid fever, than hitherto. The catarrhal form of cholangitis which occurs in our case, has received but little mention. Curschmann,[11] writing on typhoid fever, says that the microscopic examination of the liver in typhoid fever shows more or less change in every case, depending upon the severity of the infection. The liver cells first show cloudy swelling and later on, granular degeneration and fatty change. Eventually they may break down entirely. The gall-bladder may be the seat of ulcerative or a diptheric process on its mucous surface. Secondarily, the larger bile ducts may be involved with secondary changes in the liver leading to abscess. According to the researches of Chiari[12] and Birsch-Hirschfeld,[13] the typhoid bacilli are almost constantly present in the gall-bladder in cases of typhoid fever. Talma[14] has shown in an experimental way that by injecting typhoid bacilli into the gall-bladder, that a general, though mild angiocholitis developed, preceded by a cholecystitis. A careful review of the literature shows few cases of this variety of catarrhal cholangitis as a complication of typhoid fever. Cases of suppurative cholangitis secondary to cholecystitis have been more frequently reported.



1. Bile duct. 2. Extensive round-celled inflammatory infiltration around interlobular bile vessels.

THE ADENOMA.

The occurrence of adenomata in the livers of children must be regarded as extremely rare. Musser[15] has two cases. One occurred in a boy 12 years of age; another in a female infant twenty months old. Birsch-Hirschfeld[16] in 400 sections in new-born children, observed adenomatous nodules in two cases. These nodules stood out prominently on account of their pale color; they were sharply circumscribed and a connective tissue capsule occurred on the periphery. Microscopically, the tumors were made up of liver cells, which were frequently granular and multinuclear. The arrangement of the liver cells was not so ragged as in the normal. The significance of these adenomata permits of considerable speculation. If we consider them in the light of Cohnheim's hypothesis, which holds that retained embryonal tissue is the cause of malignant neoplasms, the significance of these tumors becomes ominous. In addition, observation teaches that these nodules take on a progressive character, they grow larger in size, and the exact moment when benignancy ends and malignancy begins would be difficult to determine. The case which was examined by Birsch-Hirschfeld is of interest in this connection. A 12-year-old boy presented a tumor of the liver which had persisted for more than a year. Previously, he had been perfectly well. The first sign of illness was indicated by loss of appetite with vomiting and diarrhea. This was followed by ascites; after this, he lost rapidly in nutrition, and death occurred as a reult of extreme marasmus. During the whole period of the illness, there was but slight icterus. A microscopic examination of the tumor showed that in certain areas the liver cells retained their normal radial type and presented a normal appearance, while in other areas the cells were arranged irregularly radial, the interstitial connective tissue was increased, and very vascular. The cells invaded this interstitial connective tissue, which indicated a degree of malignancy.

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DISCUSSION ON PAPERS OF DRS. GRIFFITH, MORSE, ROSENTHAL AND ABT.

Dr. Victor C. Vaughan, Ann Arbor, Mich.—Typhoid fever in children is an interesting subject. In the first place this disease is not so common among children as among adults. I explain this fact by supposing that it is due to less exposure. The daily duties of children carry them over a less extensive range of territory than do the same duties of adults. I believe that this also explains why typhoid fever is more common among men than among women, that is, there are more chances of infection in men than in women. The same explanation probably applies to the comparative infrequency of typhoid fever among pregnant women. Some claim that woman while in this condition is immune to typhoid fever, but we know that this is not true. In the second place typhoid fever is usually less severe among children than among adults. I mean by this that the mortality is not so great. I am inclined to the belief that this is due to the more sensitive state of the intestinal tract of the child on account of which the bacilli are often largely discharged from the bowels in the early stages of the disease. I desire to state, however, that this is only a theory, and that it can not be considered an established fact. I have labored diligently to find out what the normal death-rate in typhoid fever, even in adults, is, but up to the present time I am not prepared to give any definite statements. In Hamburg, where every case of typhoid fever is reported and every death is accurately recorded, the death-rate in two great epidemics, embracing about thirteen thousand cases, has been found to be 7.5 per cent. It was practically the same in the Maidstone epidemic in England a few years ago. From hospitals in this country I have collected several thousand cases, and the death-rate from typhoid fever in these is between 8 and 9 per cent. I have collected and elsewhere published 20,000 cases of typhoid fever occurring in this country in private practice, and the death-rate among these is between 16 and 17 per cent. Officially the death-rate from typhoid fever in New York City during the years 1896 and 1897 was between 29 and 30 per cent. I mean by this that of the cases of reported typhoid fever from 29 to 30 per cent. died, while in Philadelphia the death-rate as officially recorded for the same years was between 13 and 14 per cent. The only possible explanation for this difference is that the New York physician does not recognize many cases of typhoid fever, or recognizing them, fails to report them. The death-rate from typhoid fever among children is less than it is among the adults, and possibly this may be partially due to the more rapid elimination of the toxins in the child.

I was much interested in Dr. Rosenthal's paper on the treatment of temperature in typhoid fever, and I think that it is high time that we stop experimenting with antipyretic drugs in this disease. The only safe way to reduce temperature in typhoid fever is by the cold bath. There can certainly now be no question about this, and while there may be exceptions, I think that as a general rule this is the only legitimate way of attempting to reduce the fever in this disease.

I was also much interested in Dr. Abt's paper. We can understand why cholangitis so frequently complicates typhoid fever because the former is always an infectious disease, and when it complicates typhoid fever it is due to infection with the typhoid bacillus. The gangrene noted by Dr. Abt is an exceedingly interesting point. Indeed, we are just beginning to appreciate the great variety of complications which may be due to bacteria and their toxins. Yesterday in the Section on Practice there was reported an interesting case of gangrene due to malarial poisoning. The fact that we are able to diagnose many diseases scientifically and positively by the detection and identification of the specific bacteria is giving us solid foundations upon which to build, and we are learning many things about the typhoid as well as about other bacilli. We now know that a man may have a fairly typical case of typhoid fever so far as the symptoms are concerned, without any of the so-called specific lesions in the intestines, and we also have learned that cystitis, cholangitis and terminal pneumonia may all be due to the typhoid bacillus.

Dr. Clifton Scott, of Des Moines—I should like to ask a question. A very competent physician said to me not very long ago that he had convinced himself that the cold bath contributed, by the production of internal congestion, to the occurrence of internal hemorrhages; he thought he had found a more satisfactory method of reducing temperature in the injection of ice water into the colon. I should like to hear the opinion of others on this point.

Dr. Charles Douglas, of Detroit—I have listened with pleasure to the papers, particularly to the one presented by Dr. Rosenthal. It was very pleasant to find that he arrived at the point where most of us have been compelled to go. The medicinal treatment of this disease is very unsatisfactory, and impressions received from the use of remedies on a few cases are very easily dissipated. I was very sorry that the dietetic treatment of this disease was not considered this morning. However, it has been touched upon in an indirect manner. I wish, if possible, to draw out some expression as to the effects of dietetics. The reduction of temperature by baths is, of course, the only reliable way, as Dr. Vaughan has said, but it is only a temporary one, and we can not depend upon it except for a short time. I see continually the temperature reduced by baths and reproduced by errors in diet. This occurs so much in the management of typhoid fever in both children and adults that I have been sorry that more weight is not laid upon the damage we are doing by unsuitable diet.

I have found in my practice that where the diet has been kept down to the point of securing perfect digestion—and that brings us to the diarrhea which Dr. Vaughan has referred to as being due to various bacilli—the temperature has been controlled. I think we are continually ascribing to the disease many disturbances in the alimentary canal which are at work for evil. This is not a new idea with me; I gradually came to this conclusion twenty years ago. The more I can produce a comfortable condition of the bowel, the less medicine and the fewer baths are required. Medicines are, of course, quite necessary to meet emergencies.

There is a very popular idea regarding the use of small doses of calomel. I use it perhaps in one case in ten. I have never seen any bad results from it, but whenever I have found the bowel irritated from any cause, whether medicinal or dietetic, it has made the fever worse. I do not say that there must be a return of the fever with recurrences of the disease, but with perfect digestion and stools devoid of bad odor, we secure the best results. I might mention a case in point where the temperature continually ran up to 104 to 105 F. Of course, a temperature of 104 is not much to be uneasy about, but when it persists in going above this it should be checked. I was compelled to starve this patient, keeping her on a little whisky and water for nine days. During this time the temperature went steadily down, although it was just at the stage when the fever should have been at its maximum. Whenever the diet was enlarged the temperature again rose. My rule is to so feed the typhoid fever patient as to make the stools non-liquid and free from odor, as well as free from undigested food. It is this rule which I insist upon and make my nurses observe, and instruct them to note those features carefully on the clinical chart. I feed the patient anything which is digested thoroughly. It is nearly always liquid—milk, broths or white of egg. Occasionally well-boiled starch water, after boiling for three hours, may be given, and occasionally I give a little custard, but the keynote is perfect digestion. I never give more than one pint daily for every fifty pounds of body weight, and often I give much less.

DR. T. F. WOOD, Angola, Ind.—When a student I was taught, and for many years (in the early part of my practice) I thought one essential point was to feed my patients about all they could hold, from start to finish, in any case—milk of course being the principal food. After a time I began to question the propriety of this course of treatment, and by a more careful study of each case began to change my views, until now, with an added experience of many years, what not to give, and how little of it, gives me more concern than what to give, and how much of it, particularly in the first week or two of illness. Very little food is required in many cases for one, two or three weeks. The system is not in a condition to digest and assimilate food; consequently, it is a fruitful source of pain, tympanites, vomiting, eructations of gas, diarrhea, restlessness, and various other disturbing elements which our hygienic and medicinal remedies seek to avoid. First we should look well to the surroundings of our patients, make them comfortable, and keep them quite free from disturbances of all kinds, mental or physical.

Ordinarily a mercurial laxative, followed by a saline to completely empty the bowels, will be indicated; subsequently from one to three evacuations per day will be beneficial; other medicinal remedies should consist of antiseptics, antipyretics, tonics, stimulants, etc. The use of water for bathing as an antipyretic is always useful; also it is one of the best internal antipyretics and antiseptics at our command; hence, quite large quantities are not only admissible, but should be taken as part of the treatment.

I wish to say a few words on the treatment of hemorrhage as a complication, and to criticise its treatment by injections or the application of ice. I believe all such treatment is injurious and harmful. The indications in this complication are absolute quiet, and sustaining the heart's action. The indications are best met with morphia and strychnia hypodermically, the former to put the bowels entirely at rest, the latter sufficient to sustain the heart's action.

DR. J. P. BARBER, Minneapolis—Why is typhoid fever so much more severe in some patients than in others, and why is it so much more severe, as a rule, in adults than in children? In my city we have had an experience which may throw some light on this question. In 1897 we had a very severe epidemic of typhoid fever from infection of the city water supply, as proved by bacteriologic research. In the early part of the epidemic the cases were severe. The river then was covered with ice, and the water was low, and was taken from below some of the points where sewage entered. A little later in the epidemic, after the ice had left the river and the latter had been replenished by rain, there were numerous very mild cases—almost all of the walking type. In many of these it was almost impossible to make the diagnosis except by the blood and urine examinations. Some of these cases lasted only from three to five days, with slight fever, yet they showed the Widal reaction. In this stage of the epidemic about 60 per cent. were of the walking type. This raises the question as to whether this mildness of the type in the later cases was the result of dilution of the city water, thereby greatly lessening the number of bacilli received, or was due to diminution in the virulence of the bacilli.

DR. COLLINS H. JOHNSTON, Grand Rapids, Mich.—I wish to oppose the statement that the treatment of typhoid by cool baths can not be carried out in small towns in the country. Ten years ago it was begun in Grand Rapids; we were the pioneers in the State of Michigan in this field. Now, many of our physicians regularly employ this treatment, and find it easy of application. Some of my friends have carried it out in the country by filling a hogshead with water and placing a chair in this improvised tank. I recall a case in which a mother gave her child 240 baths in one month, having only the assistance of a friend from next door. Rarely does a patient refuse this treatment. The proper initiation of this method in small towns is just as easy as in a hospital.

DR. GEORGE D. HEAD, Minneapolis—There are two important phases of typhoid fever as they present themselves to the general practitioner, one is the diagnosis, and the other is the treatment. I think it is a well-established fact that typhoid cases exhibiting constipation, do best. The mortality is lowest in this class of cases as compared with those having diarrhea. I wish, therefore, to protest against the initial laxative in typhoid fever. I think the profession has made a mistake in irritating an intestinal canal already the seat of active inflammation. The sooner we do away with this initial laxative the better for our mortality statistics.

As to the diagnosis I would say that there is an aid not yet fully appreciated, namely, the use of the white-blood count. It has been generally considered that in children the leucocyte count in the diagnosis of disease is not a reliable method, but I wish to protest against this. If we take the pains to make the counts in children—the difficulties are greater—we shall find that in a large category of diseases the value of the leucocyte count is just as great as in diseases of adult life. Take, for example, a pneumonia. Pneumonia in adults is accompanied by leucocytosis. Typhoid is accompanied by no leucocytosis, and the same is true of la grippe. All septic infections have a leucocytosis. These facts apply equally well to children. The difficulties of diagnosis of typhoid fever in children are often very great, even with the Widal reaction to help us. This reaction appears in many cases too late to be of any practical value in the diagnosis, but the leucocyte count is a great aid in diagnosis from the beginning. Take, for instance, cases of meningitis simulating typhoid fever. Meningitis is followed by leucocytosis; typhoid fever is accompanied by no leucocytosis. We have in the leucocyte count an absolute means of differential diagnosis between these diseases. There are occasionally cases of appendicitis beginning like typhoid fever. Here, the white count means of differential diagnosis also would be absolute. I remember one case in my own experience, operated upon for appendicitis, but subsequently proved to be one of typhoid fever, although it had been diagnosed by two excellent surgeons as appendicitis. The leucocyte count in this case was absolutely diagnostic, and if the blood findings had been relied upon the mistake would not have occurred. I offer the leucocyte count as a very valuable diagnostic aid in the diagnosis and differential diagnosis of typhoid fever in children.

Dr. A. C. Ewing, Salt Lake City—I am never afraid when the temperature gets too high, but I watch the pulse. I never give antipyretics to reduce the fever, but administer an abundance of water externally and a superabundance internally. Beyond this I trust to the *vis medicatrix naturæ.*

Dr. Rosenthal, in reply—I have used water very frequently, and also saline infusions at intervals of two or three hours where there is much hyperpyrexia. I have seen cases of peritonitis complicating typhoid do excellently well on almost no food. I would only use calomel in the first eight or ten days, and I would give it in very small doses frequently repeated. I am in the habit of combining it with salol, probably because of my belief that its antiseptic action will be of value. If, after two weeks, constipation occurs, showing that the case is on the road to recovery, the administration of calomel is withheld, for it would certainly then do harm. The treatment of intestinal hemorrhage is certainly best carried out by securing rest, and by morphin if necessary. If these cases could be early and accurately diagnosed I should be in favor of having a good surgeon operate, but it must be remembered that we hear of successes but not of failures. It seems to me that appendicitis is apt to complicate typhoid fever, and that cases of the latter are apt to develop subsequent to a catarrhal appendicitis. In some of these cases operated upon, as long as the wound was kept open the temperature would be low, but would rise at once upon checking the discharge. Many of these cases may last for months. There seems to be a prevalent opinion that the use of the Brand bath treatment is simply for reducing the temperature. I said, on the contrary, that the treatment must be individualized. The idea of the Brand treatment is to get rid of the toxins. If the urine of the patient be examined before and after the bath it will be found that the toxicity of the urine is increased sevenfold after the bath, showing that the bath favors the elimination of these toxins. Where it is inconvenient to use the bath the child may be placed in a sheet, a gutter made, and the child kept wet constantly day and night.

TWO CASES OF SUPPURATION OF THE PAROTID GLAND WITH PUS IN THE EXTERNAL AUDITORY CANAL.

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The two cases which I desire to report possess interest from the fact that in each case there was considerable difficulty in eliminating suppurative otitis media as the cause of pus in the auditory canal. Both cases were children, and the presence of the pus may be accounted for by infiltration through the incisuræ Santorini. Of course, this has often been known to occur, but I think the cause is frequently overlooked by the general practitioner, or those who have not made a special study of the subject, the pus being regarded as coming from the middle ear.

Case 1.—The patient was a boy, white, aged 9 months. The mother, who brought the boy to the dispensary of the Pennsylvania Hospital, said that the child's father had syphilis. Examination showed a large gummatous mass involving the parotid gland and tissues surrounding it and in front of the auricle. The external auditory meatus was quite filled with pus; upon removal, however, the drum was seen to be perfectly healthy. The anterior wall of the external auditory canal was boggy and pus exuded from its surface. An incision was made over the abscess in front of the auricle. and under specific treatment the child improved rapidly.

Case 2.—I saw this case in consultation with Dr. Henry M. Fisher, of Philadelphia, to whom I desire to express my thanks for his kindness in allowing me to report it, and in furnishing me with his notes on the case. The child was a little Italian boy, aged 2 years, who, on March 5, 1901, developed measles. On March 7, symptoms of marked tracheal obstruction appeared, with evidences of bronchial pneumonia. Four days later the pneumonia had involved both lungs and a condition of induration of the right parotid and left submaxillary glands was discovered. A few days later there was discharge of pus from the right ear, and the abscess of the left submaxillary gland pointed. On the 17th, I saw the child, and found the right parotid gland very much swollen, with no area of softness discernible. There was profuse purulent discharge from the right ear. On cleansing the pus from the canal a large portion of the drum could be seen, and was perfectly healthy. There was oozing of pus from the anterior wall of the external auditory meatus, reappearing almost as soon as the surface of the canal was cleansed. The child was almost moribund, its temperature very much elevated, and it died some hours afterward. Before death there was a discharge of pus into the mouth.

TROPICAL DISEASES.*

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I have great pleasure in being able to record for the last year a general and perhaps unparalleled advance in our knowledge regarding tropical diseases.

YELLOW FEVER.

The discovery of at least one mode of infection in yellow fever—a discovery of the highest importance to mankind—emanates from America. For some time past several of our American colleagues, stimulated by recent observations in connection with malaria, have sought an experimental verification of the hypothesis of Finlay and others, that yellow fever also is communicated by the bite of gnats. Insects fed on patients were subsequently induced to bite healthy persons who volunteered for the experiment. The results were negative until the gnats were kept for an interval of twelve or more days between the two operations. Success was now immediate. Drs. Reed, Carroll and Agramonte record in their last report that out of seven non-immune persons subjected by them to the bites of infected mosquitoes, six yielded undeniably positive reactions. At the same time, seven non-immunes whom they endeavored to infect by means of the fomites of patients under peculiarly favorable circumstances, remained in every case free from the disease.

The experiments were conducted under the most stringent scientific conditions. Although the mosquito theory of yellow fever does not possess the parasitological basis of the mosquito theory of malaria, yet the differential observations of Reed, Carroll and Agramonte are of a nature to leave no doubt concerning the soundness of their conclusions.

Some of the tests have involved great heroism on the part of those who were subjected to them. Since the death of Dr. Jesse W. Lazear we have to deplore that of Dr. Walter Myers, one of our most promising young pathologists, who lost his life from yellow fever when on a deputation from Liverpool to study that disease.

If the pathogenic organism of yellow fever, hitherto undiscovered, prove to be a vegetable organism, the fact will suggest that transference by suctorial insects and arachnids, with which we are already so familiar in the case of animal parasites, may be no less common in the case of vegetable parasites. *A priori* there is nothing improbable in the view that suctorial insects may become generally infected by blood containing schizomycetes, which may next find their way by route of the insects' salivary glands or otherwise into a fresh host. There are certainly some epidemiological facts which suggest the possibility of infection by gnats in undulant fever and perhaps leprosy, and by other vermin, in relapsing fever, typhus, and perhaps several skin diseases.

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* An Address delivered at the opening of the Section of Tropical Diseases, at the Annual Meeting of the British Medical Association, at Cheltenham, July 31, 1901, from advance proof furnished by the Editor of the British Medical Journal.

ANKYLOSTOMA DUODENALE.

Another important advance is contained in the confirmation of Giles's life-history of the ankylostoma duodenale by Annett —details of which will shortly be published. These observations throw a vivid light on the route of infection adopted by these dangerous and widespread parasites.

UNDULANT FEVER.

Owing to observations made by Wright on the serum reaction in undulant (Malta) fever, this disease has been shown to exist in India, Hong Kong, the United States, the West Indies, and Brazil—a most important fact in connection with the great subject of tropical fevers.

MALARIA.

The recent advance in our knowledge of malaria has been well maintained by numerous observers. The practical side of the mosquito theory, which at once became predominant after the determination of the life-history of the parasites, has been energetically treated by Koch and his assistants, who have successfully dealt with malaria on a large scale by means of quinin. Similar work has been performed with success in the United States, and, according to reports, in Italy. In British possessions isolated efforts to deal with malaria according to the new principles have been made by Sir William MacGregor and Strachan at Lagos, and by Thomson and Young at Hong Kong; but the country generally has not adopted an intelligent attitude in this connection.

On the other hand, British workers have closely studied details of the malaria question in many parts of the world. We must refer especially to the good work done in Central and West Africa by the Malaria Commission of the Royal Society, and to an admirable sanitary survey of Nigeria made by the Liverpool expedition during the last year. Direct cultivations of the parasites have been reported by Daniels, Ziemann, van der Scheer and van Berkelom, and Woldert in various countries—all in *Anopheles;* while Manson has completed an interesting crucial experiment for the popular demonstration of the theory by infecting healthy persons (T. Manson and Warren) in London by mosquitoes brought from Italy, and by simultaneously preserving others (Sambon and Low) in health in the Campagna in a mosquito-proof house. Nuttall and Shipley, Christophers and Dutton have closely examined the anatomy of gnats. Nuttall, Cobbett, and Strangeways-Pigg have made interesting researches on *Anopheles* in England, in which, by the way, cultivation experiments have hitherto failed. Gosio, Giles, Reinhold Ruge, Fearnside, Neveu-Lemaire, and others have done useful work on the subject in many directions. It remains, however, a matter for regret that stronger efforts have not been made to determine the reason why individual gnats of an amenable species so often resist infection. Until this difficulty is cleared away negative experiments with *Culex* cannot be entirely convincing.

Since the last annual meeting of the Association the mosquito theory of malaria has received the highest scientific acceptance in the address of the President of the Royal Society, Lord Lister.

FILARIASIS.

In regard to filariasis the discovery of Low and James has been confirmed and amplified by several observers. Manson has suggested the possibility of reducing lymphatic varix by leading a lymphatic duct below the stricture into a neighboring vein.

PLAGUE.

The prompt suppression of plague in Glasgow has further demonstrated the value of energetic sanitary measures in this disease; and the large demand for plague vaccine gives encouraging evidence in favor of Haffkine's prophylaxis.

BERI-BERI.

The close clinical similarity of beri-beri and chronic arsenical poisoning seems to suggest that many cases attributed to the former disease may possibly be in reality due to arsenic.

WORK FOR THE FUTURE.

It seems to me that further researches are at the present moment most urgently required in connection, 1, with tropical fevers; 2, with the flora and fauna of the intestine in tropical bowel complaints; and 3, with the question whether European children in the tropics suffer as frequently from malaria as do the children of natives. The practical necessity of taking measures against the uncontrolled propagation of gnats in tropical cities is one which, in view of recent discoveries, can no longer be set aside by sanitary authorities without dereliction of duty.

The profession owes its sincere thanks to all those gentlemen who have done so much during the past year—often without remuneration and at considerable personal risk—for the cause of tropical medical science. It also owes its thanks to those British merchants who have generously subscribed large sums of money for the prosecution of many of the researches to which I have referred.

Reorganization of the American Medical Profession.

. . . . The plan of the Committee for the federation and interdependence of the National, State and County societies is an excellent one. Membership in the county society becomes a prerequisite to membership in the other organizations. The county organization thus becomes an unit of the state association, and the state of the National body. Each is thereby strengthened and made more powerful, each becomes more cohesive and each develops into an effective, offensive or defensive organization which will command respect and consideration because it represents an organized power which is able to reward or punish, both its friends and its enemies. The medical profession in America is large in numbers but it lacks stability and cohesiveness when called upon to protect its interests against agencies that are detrimental to its welfare. In this it, in no small manner, is similar to that Asiatic nation, the so-called celestial kingdom, which is great in numbers but whose slight stability and cohesive power renders it an easy victim to its enemies.

Reorganization of the medical profession in America is a necessity. This must begin in the county society which is to form the basic part upon which the entire fabric of an organized profession must rest. Upon these is to be built the state organization, and from the state societies must come the chosen few who are to wear the senatorial togas in the parliamentary body of the American Medical Association, the body that is to formulate the policy of the profession on matters of vital interests, the body that is to aid destiny to shape our ends to a satisfactory conclusion, rough hewn though they may be, the recommended House of Delegates of the American Medical Association.

As recommended by the Committee, regional tri-state and district societies, save in a few instances, should be abolished. These, as at present constituted, serve but a slight purpose for good, while on the other hand they weaken and detract from the county and state societies that as federated units are essential to the integrity of the National Association. They are parasitic growths on the medical body politic which sap the life strength of the National organization, and as such should be lopped off and be allowed to perish. Let their friends and promotors devote their energies to the upbuilding of their respective state and county societies where their efforts will add to the strength of the profession as a body, and where they will hasten and not hinder the consummation of professional unity.

In the trinity of National, state and county organizations, a federated union, in which each is developed to its greatest possibilities, will the profession find a power, that, like faith, can move mountains.—*Courier of Medicine*, July.

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EXPERIMENTAL TUBERCULOSIS OF ADRENALS.

A vast amount of work, clinical, anatomical and experimental, has been done in order to clear away some of the mystery surrounding the adrenals, their physiology normal and pathological. The most important affection associated with the adrenals is Addison's disease. Numerous theories have been advanced in regard to this condition, but up to the present time no single theory has proved generally satisfactory. The recent brilliant discoveries in the chemistry of these glands have culminated in the isolation of certain substances with powerful actions, especially in raising the blood pressure, but their exact rôle in normal physiologic processes is not yet fully understood. It has been thought that the symptoms of Addison's disease in some way are explainable as dependent upon the suspension or perversion of the internal secretion of the adrenals owing to the fact that they are largely destroyed or replaced especially by tuberculous products in this disease. Experimental removal of the adrenals, however, has not given rise to any symptom complex at all comparable with that of the human disease. The conditions of the experiments are, of course, widely different from those of the spontaneous disease, in which the glands are slowly destroyed or replaced by pathologic products. In the case of tuberculosis of the adrenals the reactions between the bacilli and the cells of the glands might give rise to peculiar substances of great importance in the etiology of Addison's disease.

With these and other considerations in mind, de Vecchi undertook to study the general effects and local lesions of experimental tuberculosis of the adrenals, hoping in this way to reproduce a little more accurately than heretofore the actual conditions seen in Addison's disease. For this purpose he inserted tubercle bacilli into the adrenals of animals (rabbits), which were then carefully observed and eventually carefully examined after death, spontaneous or otherwise, and at varying intervals after the injections. There resulted a fibrocaseous process which beginning in the center of the adrenals ultimately led to their destruction. Constant changes were not observed in the sympathetic structures near by, but grave degenerative lesions were found in the nerve cells of the central nervous system, being most intense in the dorsal part of the cord. Degenerative changes were also present in the heart, the liver, and the kidneys. A distinct oligocythemia developed, which is ascribed to the presence of some toxic agent with hemolytic powers, because of the deposition in the liver and the spleen, as well as the bone marrow of hematogenous pigment. As indicated, spontaneous death occurred in some of the animals experimented on, and there seems to be little reason to doubt the author's conclusion that death under these circumstances is due to a progressive intoxication; we miss, however, definite statements to the effect that infections of a mixed character were excluded by careful bacteriologic examination. General tuberculosis was not observed. The symptoms during life seemed to be of a nervous type, as far as could be determined, namely, convulsions, paresis, feeble respiration and heart's action. Emaciation developed to a fairly well-marked degree. The pigmentation and other cutaneous changes of Addison's disease were not reproduced in the animals in this series of experiments.

Still the author believes, and correctly it seems, that he has succeeded better than others in the experimental reproduction of the lesions and symptoms of Addison's disease. The effects of gradual "adrenal insufficiency" and the tuberculous intoxication combined have not been emphasized sufficiently in the various theories of the etiology of Addison's disease. Much work remains to be done, of course, and the experiments of de Vecchi are especially valuable because they suggest new viewpoints for the discussion of the interesting problems connected with Addison's disease.

CONCERNING THE PRESENCE OF OXALIC ACID IN THE ORGANISM.

It seems not impossible that the presence of oxalic acid in the body in undue amounts may be attended with a more or less well-defined group of manifestations, but the subject is one that is surrounded with a good deal of uncertainty. As the result of an experimental and clinical investigation undertaken a few years ago, Dr. Helen Baldwin[1] arrived at the opinion that as varying amounts of calcium oxalate may be held in solution in the urine, conclusions based upon the presence or number of calcium-oxalate crystals found therein are of no real value as an indication of the quantity of oxalic acid present. Unless the utmost care is exercised, the results obtained by quantitative estimations of oxalic acid are subject to large percentages of error. An ordinary mixed diet regularly contains traces of oxalic acid or its salts. A portion of the oxalic acid ingested with the food may be absorbed and reappear unchanged in the urine. The normal daily excretion of oxalic acid in the urine fluctuates with the amount taken in the food and varies from a few milligrams to two or three centigrams, being usually below ten milligrams. In health no oxalic acid or only a trace is formed in the body, but that present in the urine has been ingested with the food. In certain clinical disturbances sometimes associated with an absence of free hydrochloric acid from the gastric juice, oxalic acid is formed in the organism as a result of fermentative activity in the alimentary canal. The prolonged feeding of dogs with excessive quantities of glucose, together with meat, leads eventually to a state of oxaluria. This experimental oxaluria is associated with a mucous gastritis and with an absence of free hydrochloric acid from the gastric contents.

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[1] Journal of Experimental Medicine, vol. v, No. 1, p. 27.

More recently, Dr. Cipollina[2], of Genoa, undertook, in the chemical laboratory of the Pathological Institute at Berlin, a study for the purpose of determining the share taken by the body and the food respectively in contributing to the presence of oxalic acid in the urine, the organs in which the acid is formed and if possible the intermediate substances from which it results. As the outcome of this investigation, it was shown that the viscera of human beings and animals contain small amounts of oxalic acid, the spleen in the largest amount—apart from the thymus gland, which in the case of adults need not be taken into consideration. The amount of oxalic acid contained in the viscera is small, but on the whole it is about ten times as large as the maximum amount eliminated with the urine in twenty-four hours. The spleen, possibly also the liver and the muscles, is capable of forming oxalic acid by oxidation from uric acid. The amount of oxalic acid in some articles of food is so large that it must be taken into consideration in the nutrition of individuals who suffer from disturbances due to oxalic acid.

THE CONVEYANCE OF MOSQUITOES.

Since the transmission of malaria by mosquitoes is an established fact, and that of yellow fever hardly less so, the question of the transmission of the mosquitoes themselves rises into importance. It has been said—and this has been used as an evidence of the possibility of exterminating them—that they seldom fly far from home, but are essentially local in their habits. This may be true to a certain extent, and yet the locality may be more or less extensive; there may also be striking exceptions to the rule. The mosquito may be a home-loving body, but the *Wander-lust* may at times overcome her—it is the female mosquito that bites—or she may be transported against her will. There are localities where, according to the popular belief, mosquitoes were unknown until some railroad or canal was opened to traffic to the place, and then they became the usual nuisance. A personal experience of the writer is in point; when traveling on a western railroad through a dry sage bush region, the train stopped for a few minutes at a station alongside a sluggish alkaline stream. The cars were immediately invaded through doors and windows by swarms of the pestilent insects and it was only after many miles of further travel that we finally got rid of them.

It is more than merely possible that in this the transmission of malaria and yellow fever to points before exempt can sometimes be thus accounted for. They can also be transported otherwise; the recently reported case of the ship *America*, which became infested ten miles from land in the Gulf of Mexico, is an instance, and the other instance reported in the same issue of the Public Health Reports of the United States Marine-Hospital Service illustrates their possible persistence when once aboard a vessel. The crew of the Spanish bark *Maria Blanquer* were obliged to abandon the forecastle and sleep under close cover on account of the mosquitoes which appeared on board of the vessel when twenty-two days out of Rio de Janeiro. Such facts are not new, Howard in his recent book mentions their possibility; but these are striking instances.

It may be that health and quarantine officers will here have a new special problem to deal with and mosquitoes as well as rats have to be looked after in vessels coming from infected ports. Railroad trains, especially freight trains with cars loaded at infested points, appear to be reasonably open to suspicion and to suggest special precautions. The hopefulness of eradicating the mosquito by local measures is also affected by such facts.

THE STUDY OF THE HISTORY OF MEDICINE.

The study of old medical writings is an attractive one from many points of view. It tends, for instance, to give one the proper perspective for a broad estimation of the present state of development of the medical sciences. The work done by our medical ancestors naturally ought to interest us as physicians quite so much as the work of our political and religious forefathers interests us as citizens. The history of medicine is a *terra incognita*, however, for the great majority of medical men and students. No place seems to have been set aside in the medical curriculum of the present time for even a cursory review of the historical development of medicine; its most important epochs and even the names of its early founders and of its heroes are unknown to the great mass of medical students. The establishment of elective courses in the history of medicine is certainly indicated in order to create some interest in this important study. The work of certain local societies and of individuals has already done much to revive among us a keener interest in past events and in the work and personality of the fathers. Packard's interesting work on the history of American medicine has been received with marked favor, and its reading certainly helps one to a more correct and broader understanding of medical matters in our country. The local medical history of our cities and of various districts of the country certainly offers attractive fields for investigation to the cultured physician interested in historical matters.

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[2] Berliner Klin. Wochenschrift, 1901, No. 20, p. 544.

In a recent address, Frederick P. Henry,[1] of Philadelphia, calls our attention to the works of the Portuguese physician, Valescus de Tarenta, who lived in the latter part of the 14th and the beginning of the 15th century and whose "Tractatus de Epidemia et Peste" is one of the first medical books ever printed. Henry gives a bibliographic description of the copies of the "Tractatus," and of the only other known work of Valescus de Tarenta, the "Philonium," in the library of the College of Physicians of Philadelphia. But little is known concerning the life of their author. He was physician-in-chief to Charles VI, King of France, and professor in the medical faculty of the University of Montpellier, where his portrait is still preserved in the *salle de conseil.* The name "Philonium" which he gave one of his works seems to be the name of a medicament, one of whose properties was to invite sleep. In this book are discussed a number of obscure questions, as for instance, the reason why the cleaners of cesspools are able to withstand foul odors. The "Tractatus de Epidemia et Peste" consists of twelve short chapters, in which the etiology, the treatment, etc., of epidemic disease are discussed. Henry notes that one of the recommendations in this work is eminently favorable to the diffusion of contagious diseases, namely this, that the patient should frequently change not only his bed, but also his room and his house. Among the prescriptions recommended is one that calls for gold filings, sapphires, emeralds and coral—a form of treatment certainly beyond the reach of the poor patients. For the bubo of pest there is recommended as a local application the fundament of a live cock, which was to be continued until the cock dies!

ALCOHOLIC NEURITIS.

Since the recent extensive epidemic of arsenical neuritis due to the use of contaminated beer the question has been raised whether so-called alcoholic neuritis is really of alcoholic and not of arsenical origin. It has been contended that this form of neuritis occurs only in beer-drinkers and not in spirit-drinkers, and there is evidence to show that it is the impurities present rather than the alcohol that is responsible for the intoxication resulting from the use of spirit. For the purpose of reaching a definite opinion in the matter, Dr. E. F. Buzzard[2] undertook a careful analysis of 120 cases of alcoholic neuritis observed during a period of twelve years at the National Hospital for the Paralyzed and Epileptic in London. Of this number spirit alone and in excess was taken in 29; beer alone and in excess in 1; spirit especially in 11; beer especially in 1; and beer and spirit in excess in 30; hence, the predominant influence in the development of the neuritis must be accorded to spirit rather than beer. In 57 of the cases no special reference is made to the condition of the skin or its appendages; in 23 no cutaneous changes were found; while in 40 various vasomotor, trophic or pigmentary changes were described. The last named, however, were in general characteristic of neuritis, while changes due to arsenical poisoning were conspicuously wanting. Further, in 24 cases arsenic was employed in treatment, alcohol, of course, being withheld, and the results in these, far from being worse, were at least as good as in those treated by other means, if not better. An additional interesting fact resides in the circumstance that of a large number of cases of all kinds treated with arsenic, at times for long periods, neuritis developed in but two, although a considerable number presented other symptoms of arsenical poisoning, as exhibited in pigmentation of the skin.

THE PATHOLOGY OF SUNSTROKE.

The severe functional disturbances of sunstroke are not adequately accounted for by the morbid anatomical changes so far described in this condition. Edema, hemorrhages of various kinds and extent, and venous hyperemia are the principal gross findings. Most of the histologic examinations have been made by means of the older technical methods. Obviously there is room here for experimental work, and Scagliosi,[1] of Palermo, exposed guinea-pigs to the immediate action of the sun's rays during the months of August and September, when the highest temperature varied from 29.6 C. to 31.3 C. Under these circumstances the animals, as a rule, succumb in from 1 to 3 or 4 hours after great rise in temperature, hurried respiration, rapid heart's action and convulsions. Animals in the state of prostration when brought into a cool atmosphere revive temporarily but die later with continued fall of the bodily temperature. Careful postmortems were now made and the principal internal organs carefully examined according to the most improved modern methods. Profound changes in the central nervous system were observed, consisting of vacuolization of the nuclei of the ganglion cells and general chromatolysis. Severe degenerative lesions also developed in the heart, the lungs, the kidneys, and the liver. The blood shows a transitory increase in concentration and in corpuscles; occasionally a distinct leucocytosis was present. Scagliosi refers the degenerative changes to the action of toxic substances in the blood, and the fall in the temperature of some of the animals to disturbances in the radiation of heat; it is also ascribed to the changes in the blood. The changes in the physical and chemical constitution of the blood plasma he attributes to direct overheating of the blood. This in turn causes physicochemical changes in the tissues, disturbing the normal regulation of heat, so that the animals which survive for a time show marked decrease in temperature. The pathology of sunstroke is exceedingly complex, and undoubtedly its solution can not be accomplished by morphologic methods because they do not make clear the exact nature of the physico-chemical alterations which there is good reason to believe are produced in the blood and the tissues. The most that morphology can do is to point out the direction that investigation should take.

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[1] Maryland Medical Journal, June, 1901.

[2] Lancet, June 8, 1901, p. 1593.

[1] Virchow's Archiv, 1901, clxv, 15-41.

THE THERAPEUTIC EMPLOYMENT OF CACODYLIC ACID.

Of the therapeutic utility of arsenic there is no need to speak, but there has recently been put forth by French clinicians an arsenical preparation—namely, cacodylic acid—for which claims have been made with regard to its innocuousness and its greater efficiency. The first of these claims has not been sustained, as toxic effects have been noted as a result of the employment of cacodylic preparations, while if their usefulness is by any means as great as they are given credit for, we have, indeed, come into possession of a most valuable therapeutic agent. Thus, according to Armand Gautier,[1] cacodylic acid and the cacodylates render remarkable service in the most varied affections, and particularly tuberculous affections—pulmonary, osseous, visceral—diabetes, neurasthenia with general wasting and impairment of function, visual disturbances, malarial intoxication, influenza, profound anemia, asthma, chorea, protracted convalescence, wounds with loss of tissue, fractures, the effects of repeated pregnancy, incoercible vomiting, myxedema, diseases of the skin, etc. They have yielded variable or doubtful results in cases of paralysis agitans, the degenerations attending mental disorders and cases of carcinoma. They may be employed for a number of years consecutively without causing derangement of nutrition, congestion of the liver or kidneys, intestinal tract, nervous centers and the skin. They act by stimulating the reproduction of cells, increasing the number of red blood-corpuscles, rejuvenating the tissues and conferring upon the economy an extraordinary degree of resistance to morbid influences. While we are scarcely so sanguine as to hope for a realization of all that is promised in the foregoing, we feel that the remedy is deserving of judicial trial, and that its continued use should be decided for or against on its merits. Although the current price of the drug—about five dollars an ounce—seems extremely high, the cost of the individual dose or of sufficient for a course of treatment is really not so, as an ordinary dose is about one-sixth grain.

ORGANIZATION OF THE ARMY MEDICAL DEPARTMENT IN ACTIVE HOSTILITIES.

Every war of the last century has been prolific in criticism of the work of the medical department. The strictures have not been limited to any one campaign nor to any nation. The defects have been conspicuous in the British-Boer hostilities in South Africa no less than in the Spanish-American operations in the West Indies and the South Sea Islands. The service of the sick to-day is subjected to criticisms of the press so similar to those inflicted upon the military medical situation forty years ago that the editorial comments of the two periods may be interchanged without detection. The conditions which led to the enforced resignation of a cabinet minister in 1899 have recurred wherever belligerent forces have taken the field, until at the present time the question of the suitable care of the sick and wounded assumes an importance almost equal to the *casus belli* itself. To the solution of the problem of promptly relieving the suffering and efficiently aiding the injured, the brightest medico-military minds have devoted their attention for a long time. Great advances have been made; and, notwithstanding the hostile attitude of deluded and more or less malicious critics, the medical service of to-day is far superior to that of any previous period. But the medical department has always been so hampered in its efforts to develop the highest efficiency, that results satisfactory to itself, as well as to its critics, have never been attained. The Proceedings of the Association of Military Surgeons of the United States, during its decade of existence, reveal numerous attempts to solve this problem, but the successful solution appears to be as far away as ever. It was a happy thought then that led the Association of Military Surgeons of the United States to inspire work along this line by doubling its Enno Sander prize for this year, and by confining the competing essays to the subject of the most practicable organization for the medical department of the United States Army in active service.[1] It is to be hoped that the outcome of this contest may be a satisfactory termination of the inquiry which has exhausted the most accomplished military surgeons of the age. While the medical and surgical history of our recent hostilities has yet to be written, many lessons have been learned by the participants in the sanitary work of the various expeditions, and upon these lessons may be built up a system which shall satisfy the requirements of prompt and effective administration. This fact should stimulate a large number of competitors to enter the lists, and result in an unprecedented addition to our knowledge of the subject.

Medical News.

CALIFORNIA.

Dr. George H. Aiken has been elected president of the Fresno Board of Health, and Dr. Philip N. Russell, city health officer.

Colonel Charles R. Greenleaf, assistant surgeon general, U. S. Army, has relieved Colonel William H. Forwood as chief medical officer of the Department of California.

Southern Pacific Hospital Changes.—It is announced that on the retirement of Dr. Amos Graves, chief surgeon of the Atlantic system of the Southern Pacific Railway Co., the authority of Dr. Matthew Gardner, San Francisco, is to be extended to include that territory.

The Board of Medical Examiners of the State of California held its meeting for organization, August 6. Up to the time the new medical law went into effect, 6725 applications for license had been received by the Board. About two-thirds of these were applications from outside the state.

Sue for Certificates.—Four graduates of the Pacific Coast Regular College of Medicine, to whom the State Board of Medical Examiners refused to issue certificates to practice, because the college was not in good standing, have brought suit to compel the Board to issue certificates to them.

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[1] Bulletin de l'Académie de Médecine, 1901, Nos. 26 and 27.

[1] The Journal A. M. A., July 20, p. 208.

ILLINOIS.

Dr. John A. Wheeler, Auburn, has been appointed assistant surgeon of the Fourth Infantry, I. N. G.

Dr. A. B. Middleton, Pontiac, returned from Europe, August 1, and commenced work in his new position as physician to the Reformatory.

Raise Fees.—The physicians of Bloomington and McLean County have decided to raise fees for day calls from $1.50 to $2, and for night calls from $3 to $4.

Assault on a Physician.—Because Dr. James B. Miller, South America, Saline County, had rendered a bill to Avan Lewis, a farmer of the neighborhood, he waylaid the doctor, and after attempting to shoot him beat him into insensibility with a club. Dr. Miller's condition is critical, and his assailant is held awaiting the outcome of the injuries.

Chicago.

Dr. Valborg Sogn sailed for Christiania, Norway, on the *Island,* July 18.

Dr. Eliza H. Root, whose appointment as acting dean was noticed in The Journal of May 4, has been appointed dean of the Northwestern University Woman's Medical School, Chicago.

Dr. Truman W. Brophy was elected president of the International Dental Federation, at its meeting held in Cambridge, England, August 9. The meeting next year will be held in Stockholm, Sweden.

Attending Staff Must Attend.—By order of the warden of Cook County Hospital, members of the attending staff are assigned to particular wards and are not allowed to make professional calls in other wards without first obtaining permission. The warden states that the failure of the members of the attending staff to come to the hospital or while there to attend any except certain cases in which they were interested, is the reason for this order requiring attendance.

Department of Health.—Of the total 468 deaths reported last week only 170 were of those under five years of age. This proportion is more than 30 per cent. lower than the midsummer average of infant and child mortality, and the decrease shows how promptly life and health at this age period respond to the influence of temperature. The reduction in the total mortality at all ages from that of the preceding week was confined to diseases unfavorably affected by hot weather—there being 66 fewer deaths from the acute intestinal diseases, convulsions, diseases of the nervous system and from sunstroke. The mortality rate fell from 15.6 in the previous week and 17.7 in the corresponding week of last year to 13.8 per 1000 of population.

Restriction on Internes.—On account of complaints of unnecessary and improper operating by internes at Cook County Hospital, the rule was posted August 1 that all major surgical cases must be operated on by one of the attending staff. In answer the internes, through a committee, make the following statements: "1. Whereas, it has been stated that we are but 'students,' learning our 'trade' at the expense of county patients, we emphatically deny this. Every one of us has graduated from a reputable school, has passed the state board examination, and is entitled thereby to practice medicine and surgery in this state and is selected under civil service rules, by passing successfully an examination in medicine and surgery given every year, competitive in character, and held under the most rigid and impartial rules that govern any examination whatsoever. Such qualifications are not picked up by the wayside, but gotten only by constant application, by the expenditure of a great deal of time and of money. Moreover, every interne in this hospital has had a college training before starting in the study of medicine. 2. Whereas, it has been alleged, too much and unnecessary operating has been done by internes. We point out the fact that no operation, at any time, has been had but after a complete examination by a member of the attending staff, under his direct control and supervision. There is no authentic case in the hospital in which a patient was narcotized without the presence of an attending physician or surgeon. 3. Considering the qualifications necessary to become an interne, and the fact that every senior interne has served twelve months in preparing for surgical work, it is justly evident that we should be regarded competent to participate adequately in the care of patients. Such privileges are enjoyed by internes of every other hospital in this country and abroad. 4. Whereas, * * * It appears as if there were friction between the hospital management and the internes. We assure you that there is nothing but good will between Warden Healy and the house surgeons. Signed, R. J. Friedman, M.D., J. F. Howard, M.D., A. Foerter, M.D., O. R. Goldsmith, M.D., J. F. Hultgen, M.D., Committee of Cook County Hospital Internes.

INDIANA.

Dr. J. Rilus Eastman, Indianapolis, sailed for Germany, August 3.

Dr. George W. H. Kemper, Muncie, has been reappointed a member of the Board of Pension Examining Surgeons for Delaware County.

The George W. Mears Memorial Library, Indianapolis, has received a gift of more than 4000 volumes from the founder, Dr. J. Ewing Mears, Philadelphia.

The State Board of Medical Registration and Examination passed 77 out of 90 applicants for license to practice medicine. The highest average attained on examination was 99.3 per cent.

Dr. D. D. Clark, city health officer of Decatur, who is said to have refused to quarantine in smallpox cases, and who was cited to appear before the State Board of Health to answer this charge, has resigned.

Dr. George W. Van Benschoten, South Bend, who is about to move to Providence, R. I., was tendered a banquet by the St. Joseph County Medical Society, July 25, in token of the high esteem which he is held by the local profession.

KENTUCKY.

Dr. Charles H. Voorhies, Jr., Lexington, has been reinstated as health officer of the city, vice Dr. Daniel J. Healy, resigned.

Dr. John L. Dismukes, Maysfield, has been appointed major and surgeon in the Kentucky State Guards and assigned to the Third Infantry.

Dr. William R. Heflin, Lakeland, has been commissioned as physician to the government prisoners confined in the Newport and Covington jails.

LOUISIANA.

Major J. H. C. Fisher, surgeon, U. S. Army, has reported for duty at Jackson Barracks after two years of service in the Philippines, relieving Major A. H. Appel.

Mortality of New Orleans.—This city congratulates itself on having a death-rate for a week in July equivalent to 14.18 per 1000 per annum. This is, however, for the white population only. The death-rate given is only racial, not by population, and is therefore lacking in one essential of correctness.

Lepers' Home.—The latest move in connection with the much discussed Lepers' Home question, which has been in statu quo for several weeks past, is an effort on the part of the Jefferson people to secure possession of the Elkhorn property by purchase from the state. This action followed an ultimatum by the governor.

Free from Mosquitoes.—It is said the only place in New Orleans free from mosquitoes is the United States barracks, Camp Jackson. This is in the lower end of the city, in one of the worst mosquito districts of Louisiana. Captain John T. Martin, who is in command, began the oil treatment long before the war department issued the order giving officers authority to use crude petroleum in the effort to rid the various posts of mosquitoes.

MASSACHUSETTS.

Dr. Alexis L. Draper, Dorchester, has been appointed post-office physician of Boston.

Lieutenant George C. Littlefield, assistant surgeon of the Second Corps Cadets, Salem, has resigned.

Dr. Henry Colt, Pittsfield, has been appointed medical examiner in the Second Berkshire District, vice Dr. Frank K. Paddock, deceased. Dr. Colt is succeeded as assistant examiner by Dr. Lawrence C. Swift.

The New Harvard Medical School.—The new buildings erected by the munificence of John Pierpont Morgan in memory of his father, make up three of the seven buildings required for the new school. They are to be the administration building; anatomy, histology and embryology building and physiology and physiological chemistry building, and will cost about one million dollars.

MICHIGAN.

Dr. Sheridan E. Gardiner, Mt. Pleasant, has been appointed pension examining surgeon.

Communicable Disease in Michigan.—Including reports by regular observers and others, cerebrospinal meningitis was reported during July, in 12 places; whooping cough in 26 places; diphtheria in 53 places; measles in 58 places; typhoid fever in 92 places; scarlet fever in 108 places; smallpox in 114 places, and consumption in 195 places.

Dr. Louis Barth, Grand Rapids, has offered the city property on South Lafayette street for hospital purposes. It is arranged that the city shall accept the property, reserving to itself the privilege of disposing of it for a cash consideration. The eventual result of this new arrangement will be the establishment of the "Louis Barth Hospital" for communicable diseases in the southeast section of the city, remote from the residence district.

Health in Michigan in July.—In the Monthly Bulletin of Vital Statistics, the report of the secretary of the State Board of Health, based on the sickness statistics, shows that in July, as compared with the average in the ten years preceding, scarlet fever, smallpox and diphtheria were more prevalent, and consumption, intermittent fever, remittent fever, inflammation of bowels, erysipelas, whooping cough and cerebrospinal meningitis were less prevalent.

Smallpox in the Michigan Asylum for the Insane.—Referring to the news item in The Journal of August 10, entitled "New Disease in Michigan," the medical superintendent of the asylum advises us that in the beginning the best local consultants agreed in calling this disease chicken-pox, but that later the State Board of Health called it smallpox, and such it has been called since and such in his judgment it is. At no time has he believed that there was anything new in the line of eruptive disease in the asylum. In a population of 1725 there have been 53 cases of which 46 have recovered and 7 are convalescent.

MARYLAND.

The health commissioner of Baltimore is waging war against all artificially colored sausage. The law gives him power to confiscate all food stuffs thus prepared.

Dr. Cephas L. Wingerd has instituted suit in Hagerstown against the Western Maryland Railroad Company for $5000 damages for injuries sustained last February, when he was thrown from his buggy by a train.

Baltimore Physicians' Vacations.—Dr. J. A. Claverie has gone to Donaldsonville, La.; Dr. E. C. Gibbs, to Rehoboth, Del.; Dr. Douglas Malcolm to the New England Coast; Dr. C. S. Woodruff to Lake Beaufort, Quebec; Dr. J. M. Hundley to Charmion, Pa.; Dr. A. B. Gaither to Atlantic City; Dr. H. H. Goodman to Asbury Park, N. J., and Drs. Hiram Woods, Geo. E. Houck and C. A. Davis to Boston.

MINNESOTA.

Diphtheria is reported to be increasing steadily in Minneapolis, where thirty new cases were reported during the first six days of August, with seven deaths.

Freak Medical College.—The Wisconsin physician who thrust notoriety on himself by his peculiarly filthy methods of showing his disbelief in the contagiousness of smallpox, now announces his intention of inflicting on St. Paul a school of anti-contagious medicine, where his peculiar views will be put forth.

Ohage Island Baths.—On August 1, Dr. Justus Ohage, health commissioner of St. Paul, formally transferred Harriet Island, with its park and baths, to the city of St. Paul. The island will henceforth be known as Ohage Island in recognition of the debt the people owe to Dr. Ohage for his labors in the direction of the cleanliness and health of the city.

Smallpox.—Since January 1, there have been 299 cases of smallpox in Minneapolis, with one death. Only one patient now remains in the isolation hospital. Smallpox in the state has decreased nearly one-third since the report of July 15. There were only 239 new cases reported in the last two weeks of July; in the first two weeks, 380 cases were reported. The greatest number of cases is in Stearns County.

Hennepin County Board of Health has been organized with County Physician Kistler as its medical member. Arrangements will be made with Minneapolis whereby smallpox patients may be cared for at the quarantine hospital at St. Louis Park and patients with other diseases at the City Hospital at $1 per day. This will obviate the necessity of keeping guards over quarantined houses and eliminate other expenses in caring for patients in their homes. Dr. Kistler will care for county cases for the rest of the year for $150.

NEW JERSEY.

Dr. Lewis C. Williams began his service as house-physician at St. Francis' Hospital, Trenton, August 1.

Joseph D. Kelley, Keyport, arraigned at Freehold, July 25, for practicing medicine without a state license, plead guilty, and on August 1 was fined $150.

A new ambulance has been donated to St. Francis' Hospital, Jersey City, by Joseph E. Bernstein, and will be maintained by a society of men, each of whom pays an annual subscription of five dollars.

Five Monmouth Physicians Arrested.—The State Medical Board, through Dr. John W. Bennett, Long Branch, caused the arrest of five physicians in that place, July 31, charged with practicing medicine without having first filed a certificate of license with the county clerk as required by law. Four of the five waived examination.

Notification of Tuberculosis.—Dr. John D. McGill, Jersey City, president of the Board of Health and president of the State Medical Society, on July 30, requested all physicians in the city to report cases of tuberculosis as they have heretofore reported smallpox, diphtheria or scarlet fever. Printed postal cards are being prepared and will be furnished to each physician. At present there is no ordinance classifying tuberculosis as a contagious disease, and no compulsion will be exerted to induce physicians to comply with the request of the Board of Health.

NEW YORK.

Convention of Health Officers.—The State Department of Health is arranging for a convention of health officers and registrars of vital statistics to be held in Albany, October 24 and 25. It is expected 2000 officials will attend. Addresses will be made by prominent authorities on sanitation, public health, etc.

Applicants for Medical Interneships.—The State Board of Regents filed with the state civil service commission, August 6, a list of thirty-one medical students who have successfully passed the examinations to practice medicine in this state and who in addition have filed applications for the position of medical interne in the state hospitals. Of this number, twenty-eight are graduates of the regular school.

Craig Colony for Epileptics.—The seventh annual report of the managers and the superintendent of the Craig Colony for Epileptics has been issued. It shows that there have been 854 admissions since 1896, of which 612 remain. The objects of the colony are to secure the humane curative, scientific and economical treatment and care of epileptics. From 75 to 80 per cent. of patients improve under the colony system and from 7 to 10 per cent. recover. The remainder go down into epileptic dementia.

Buffalo.

The German Hospital dispensary staff, at a recent meeting, passed resolutions expressing the great loss at the untimely death of Dr. Frank Bingham, an active member of the staff.

The International Council of Nurses will be held at Buffalo, September 16 to 20. A large attendance of nurses from all parts of the United States and Canada is expected. The societies to be represented are as follows: The Associated Alumnæ of Training Schools for Nurses of the United States, the American Society of Superintendents of Training Schools and the International Council of Nurses.

New York City.

Dr. Andrew H. Fridenberg, who was arrested July 31 on the charge of illegal practice of medicine at Long Branch, N. J., was acquitted August 3, and immediately instituted a suit for $10,000 damages against the physician who caused his arrest.

OHIO.

The estate of the late Dr. Milton T. Carey, Cincinnati, is valued at $85,000.

Dr. P. Maxwell Foshay, Cleveland, was elected president of the newly-organized board of trustees of the State Hospital for Epileptics, at its meeting, August 5.

Dr. William K. Coleman, West Union, was elected superintendent of the State Hospital for Epileptics, Gallipolis, August 5, vice Dr. H. C. Rutter, resigned.

Dr. Albert P. Ohlemacher, Gallipolis, was reinstated in his position as pathologist of the State Hospital for Epileptics, August 5. This was the first official act of Superintendent Coleman.

Dr. Louis L. Lyman, Springfield, has been appointed chief surgeon of the Southern Division of the Detroit Southern

Railway. He has appointed Dr. D. Walter Spence assistant surgeon in Springfield.

Smallpox in Ohio.—The annual report of the State Board of Health shows that during the year ended June 30, there were 3229 cases of smallpox with 44 deaths. Failure to stamp out the epidemic is ascribed to carelessness and lack of recognition of the disease on account of its mild form.

College Faculty Changes.—At Ohio Medical College, Dr. Benjamin K. Rachford becomes professor of diseases of children, and Dr. Allyn C. Poole, professor of materia medica and therapeutics. Dr. David I. Wolfstein will occupy the newly-established chair of nervous diseases at the Cincinnati College of Medicine, Dr. C. W. Fangeman will be professor of ophthalmology, Dr. Harry Freudenberger, of pathology, and Dr. Theodore W. Schmidt of chemistry.

PENNSYLVANIA.

Dr. Daniel P. Blose, McKeesport, will sail in a few days for Germany.

The Lancaster Board of Health met on August 3 for organization. Dr. Daniel R. McCormick formally declined reappointment. This leaves a vacancy to be filled.

Dr. J. Madison Taylor, Philadelphia, has resigned the professorship of diseases of children in the Polyclinic College for Graduates, which he has held for the past fifteen years.

Hospital Staff.—The McKeesport Hospital trustees, on August 1, elected Drs. J. C. Greenfield, Penn Line, A. A. Peterson, Allegheny, and W. I. Allison, Hopedale, Ohio, as resident physicians.

Dr. Stewart L. McCurdy, at present professor of anatomy and surgery in the Dental Department of the Western University, has been elected professor of orthopedic surgery in the Western Pennsylvania Medical College (Medical Department of the Western University of Pennsylvania), Pittsburg.

SOUTH CAROLINA.

Dr. John H. McCullough, Newberry, has been elected county physician to fill the unexpired term of Dr. George B. Caldwell, deceased.

Dr. Charles M. Rees is acting as health officer of Charleston until an election can be held to fill the place vacated by the death of Dr. Henry B. Horlbeck.

Medical College Scholarships.—Seven appointments to scholarships in Charleston Medical College have been announced by the governor. The appointee from the First District is a young woman.

SOUTH DAKOTA.

Dr. Henry Van Ostrand, a pioneer physician of Yankton, is dangerously ill.

Addition to Hospital.—The Benedictine Sisters are building a $20,000 three-story cut-stone addition to their hospital at Hot Springs, in the heart of the city, on ground donated by citizens.

Dr. Hiram E. McNutt, Aberdeen, has resigned as superintendent of the Brown County Board of Health, because of the failure of the county commissioners to give him adequate compensation for his services in smallpox cases.

WISCONSIN.

A "magnetic healer," of Ripon, was arrested, August 7, charged with violating the medical laws of the state, and was placed under bonds of $200.

Smallpox at Colby.—The secretary of the State Board of Health has notified the local health board of Appleton that seventeen cases of smallpox at Colby are directly traceable to an unidentified man who was recently examined by an Appleton physician and allowed to proceed on his journey to Colby.

The Wauwatosa site for the proposed new isolation hospital of Milwaukee County is favored by Health Commissioner Dr. Ferdinand M. Schulz, of Milwaukee, who believes that a suitable building could be erected 300 or 400 yards from the present county hospital so that there would not be the least danger from contagion and which would be convenient to all parts of the county.

GENERAL.

Royal Palace Converted into Hospital and Asylum.—The Italian palace near Milan, where King Humbert was staying when he was assassinated recently, will be converted, by his son and successor, into a hospital and asylum for children.

Island for Filipino Lepers.—A board of officers, convened in accordance with orders from the district commander, has recommended, for the segregation of lepers, the Island of Barri. It is north of Luzon, uninhabited and two miles long by one wide.

Honors to a Dentist.—The Berlin papers state that the University of Pennsylvania has conferred the title of Doctor of Science on Dr. Miller, professor of odontology at Berlin. This is the first time that this title has been conferred on a dentist; it was won in this case by Miller's scientific researches.

Mr. Henry Mervin Shrady, the young sculptor, who has been selected to make the equestrian statue of Washington to be presented to the borough of Brooklyn, is a son of Dr. George F. Shrady, editor of the *Medical Record.* Although quite young, Mr. Shrady has already a high reputation as a sculptor.

The Lane Medical Lectures, San Francisco.—Mr. Malcolm Morris, M.R.C.S. Eng., and editor of *The Practitioner*, London, will deliver the 6th course of these lectures, on skin diseases, in the Cooper Medical College, San Francisco, September 2 to 6, giving two lectures daily, at 11 a. m., and 8 p. m.

State Board of Dental Examiners Resign by Request.—On complaint of James H. Worman, consul to Munich, Bavaria, a charge of issuing licenses irregularly has been made against the Illinois Dental Board of Examiners. Governor Yates asked for the resignation of the members of the Board, and the secretary was arrested, but subsequently released on $3000 bail. Consul Worman says his chief evidence is that a certain Emil Gumpoldt left Munich in April, 1900, and returned in little more than four weeks provided with a diploma of a Chicago college and a license to practice in the State of Illinois.

CANADA.

Dr. Charles Doherty, superintendent of the Kootenay Lake Hospital, Nelson, B.C., is spending his vacation in Toronto.

A Medical Student Drowned.—Mr. John C. Carlaw, a third year medical student at Trinity Medical College, was drowned in Lake Ontario on the 9th inst.

Dr. W. T. McArthur, Los Angeles, Cal., is making a short stay in Toronto on his way home from England, where he has been successful in obtaining the degree of F.R.C.S.

The Pharmaceutical Association of Manitoba will hereafter refuse to recognize Ontario diplomas; this will mean that Ontario graduates can not practice in the Western Province. It is altogether likely that the Ontario druggists will retaliate.

Dr. P. H. Price has returned to Toronto after inspecting the Muskoka summer resorts. He reports an increasing sanitary vigilance on the part of the cottagers. Some years ago typhoid was very prevalent on account of the cottagers carelessly disposing of refuse in the lakes, but this has been largely overcome.

The Canada Lancet, which was founded thirty-five years ago by the late Dr. Fulton, has been purchased from Dr. G. P. Sylvester by the Ontario Publishing Company, of Toronto, the proprietors of the *Canadian Magazine.* It is understood that the journal will be enlarged and improved, but will retain the same editorial staff.

Death of an Old Physician.—Dr. John Barnhart, who formerly resided in Owen Sound, Ontario, passed away in Toronto on the afternoon of the 9th inst., having attained 88 years of age. He was one of Canada's pioneer medical men and was a student of the late Dr. Widmer, of Toronto. He received his medical education in New York.

Indians Must Register.—The Ontario Government has passed an order-in-council appointing registrars to record the births, deaths and marriages occurring on the Indian reservations. The Registration Act calls for registrars in every portion of the province, and since the reservations are not townships, the registrars of the adjacent townships have been assigned the duty.

Toronto Physician Suicides.—Dr. Overton F. Macdonald, of Toronto, a homeopathic practitioner, ended his life on the afternoon of the 8th inst. by shooting himself through the heart with a breech-loading shotgun. He is said to have unsuccessfully attempted to end his life a few days prior thereto by taking poison. He had not been in his usual good health for some time past, having suffered from mental trouble, induced through a recent attack of la grippe. He was thirty-nine years of age, and was graduated from the Cleveland Homeopathic Institution some years ago.

The Council of the Ontario College of Pharmacy, which has been in session in Toronto during the past week, has decided to establish subsidiary associations in the thirteen districts into which the province is divided. The representatives on the Council from those districts will be at the head of these minor bodies and will be provided with funds to pay for the expenses of their organization. The special committee on behalf of the druggists, which was appointed to confer with the Ontario College of Physicians and Surgeons with regard to the recent trouble in connection with "counter prescribing," stated that on account of no conference having taken place between representatives of the two bodies, that the matter was still unsettled, but they hoped to come to some understanding soon.

Caring for Consumptives in Toronto.—The Executive Committee of the National Sanitarium Association met at the Sanitarium, Gravenhurst, Muskoka, on August 7. The Committee found the capacity of the institution severely taxed, a number of patients occupying tents on the lawns and a number more on the waiting list for admission. The physicians reported an increasing number of applicants in whom the disease was too far advanced for treatment. The committee visited the building site of the Gravenhurst Free Hospital for Consumptives; and it is expected from all appearances that the building will be ready for patients in November. This new building is to be supported by voluntary contributions, and is intended for consumptives in the early stage of the disease. The principal business of the meeting was to discuss the plans of the Toronto Home for Consumptives. At the present time the hospitals throughout the country do not make provision for the study of tuberculosis; and the proposed plans of the Toronto Home will obviate these difficulties.

FOREIGN.

Death of Von Widerhofer.—The Vienna Medical School has lost one of its most popular professors in H. von Widerhofer, the eminent pediatrist, who died July 28, in his 70th year.

A New Egyptian Medical Journal.—*L' Egypte Medical* is the title of a new periodical to be published at Alexandria in French by A. Ruffer, president of the Conseil Sanitaire of Egypt.

International Congress on Seasickness.—Ostende, in Belgium, is holding an international congress on seasickness, with an exposition of all measures that have been devised against it, to continue two months. The congress is under the auspices of the League against Seasickness, which has its headquarters at Paris, 82 Boulevard Port-Royal. (Ligue contre le Mal de Mer.)

Profs. Finsen and Pavloff Get Rich Prizes.—Professor Finsen of Denmark and Professor Pavloff, the Russian physiologist, have been awarded each 200,000 crowns ($50,000) as prize money from the $2,000,000 left by the late Alfred Nobel, a Swedish millionaire, for the advancement of science. Finsen is noted for his treatment of cutaneous affections by certain light and electric rays, and Pavloff is known by his researches in nutrition.

PARIS LETTER.

Death from Medullar Cocainization.

In the last Paris Letter mention was made of a case of death following rachi-cocainization. Another case has recently been reported to the Society of Surgery by Dr. Bousquet, of Clermont. The patient, a woman, was operated for a strangulated hernia, and only two centigrams were injected. Almost immediately after the injection most serious cardiopulmonary symptoms were observed, there being extreme pallor, dyspnea and a very rapid pulse, against which injections of ether and caffein were made during three-quarters of an hour. Artificial respiration was also resorted to. Some improvement took place, followed, however, by extreme agitation, and death took place at 2 o'clock the following morning, the patient being in a comatose condition.

Tetanus.

The discussion on tetanus has been kept up, Dr. Bagy insisting upon the fact that Dr. Vaillant's researches have shown that tetanus is intimately associated with suppuration, and Professor Berger contradicting this statement, and stating that a long list of cases could be cited where there was no superficial wound, and in which tetanus took place. It must be admitted that a good deal of the enthusiasm which was shown for this treatment by antitetanic injections has died out.

Test for Purity of Water.

At a recent meeting of the Academy of Sciences, a most interesting method for recognizing the purity of water was described by Mr. Causse. This author has already described the effect produced on contaminated water by two other reagents, Schiff's solution and paradiazobenzene-sulfonate of sodium. A third reagent would be what is crystalline violet, or hemamethyl triamidotriphenylcarbinol. A sulphurous solution of this reagent comes back to its original color when poured into pure water. Otherwise this phenomenon does not take place. The reagent can be readily prepared by dissolving 25 centigrams of crystallized violet in 250 cubic centimeters of a saturated solution of sulphurous acid in water.

Gelatin in Treatment of Aneurism.

A good deal of discussion was elicited three years ago by a novel method advocated by Dr. Lancereaux for the treatment of aneurism, and which consisted in the subcutaneous injection of a solution of gelatin. At one of the last meetings of the Academy of Medicine this subject was again brought forward, and Dr. Lancereaux remarked that the causes of failure were insufficiency in the technique employed, or else the use of this treatment in cases of fusiform aneurism. Dr. Lancereaux presented to the Society two patients, one having a subclavian aneurism, and the other an aneurism of the aortic arch, which had already attacked the sternum. Considerable amelioration was brought about by the use of the gelatin injections.

Post-Graduate Courses.

Post-graduate courses have been so far unheard of in France, but it would seem that at last there is a chance of some new institutions being established which will furnish the medical graduate with the means of completing his education. Dr. Jayle, assistant of Professor Pozzi, has just published an article on this subject in the *Presse Médicale*. The initiative of this new departure does not come from the Faculty of Medicine, which will remain closed as usual during the summer, but from the municipal counsel, which has already established two new professorships, one of pediatrics and the other of gynecology. One of the members of the counsel proposes the creation of a municipal institute of applied medicine, where instruction would be given to physicians having already graduated. The courses would only last two or three months, and would be made by some of the most noted physicians and surgeons of the hospitals. These courses would not be gratuitous, and the number of students would be limited thereby.

Mosquitoes and Leprosy.

At the meeting held by the Academy of Médecine on July 30, the subject of the influence of mosquitoes on the general health was discussed at length. Dr. Blanchard said he considered that leprosy could be transmitted by mosquitoes, and Dr. Chantemesse remarked that leprosy was caught generally at night. Dr. Hallopeau said that leprosy was a disease seen generally in very warm or very cold countries, where mosquitoes are found.

Poisoning from Dye.

Professor Landouzy made a report on a case of poisoning by the use of socks, in a child. According to Dr. Riche, the dye, which is composed of aniline, is dissolved in aniline oil.

Correspondence.

Oversupply of Medical Graduates.

Geneva, Pa., Aug. 12, 1901.

To the Editor:—Much has been written lately concerning the oversupply of physicians in the United States. Permit me to say a word on the negative side of the question.

All the writers noted so far taking as a basis the recent census—which shows a ratio of 1 physician to 600 population—reason *a priori* that this is largely in excess of the demand.

The facts, I believe, do not support this conclusion, particularly in the rural districts throughout the north and west, with which I am familiar.

In villages and towns varying in population from 500 to 2000, nine out of ten physicians will claim to be making from $2000 to $3000 per annum. More will be found who claim to be making in excess of $3000 than those who will admit that they are making less than $2000.

These statements are corroborated by the "Locations for Sale" column of The Journal. Compare these figures with the salaries received by ministers and school principals in these towns. While I have no statistics at hand to prove my assertions, probably not 5 per cent. receive as much as $2000 a year while the major portion of them are receiving salaries of less than $1000.

Right here lies the real cause of the large number of medical students. The medical schools are largely recruited from the rural districts, and the cause is evident. While the country physician does not receive a large income according to city standards, it is large according to the standards of the community in which he lives. Living expenses in the smaller towns are low and the physician is enabled thereby to live well and in a comfortable home. Furthermore, he is an honored and respected citizen. Naturally the ambitious young man sees this, and emulating the example, studies medicine.

We, as a profession, disavow commercialism, and it is our proud boast that we stand hand in hand with the ministers and teachers in laboring for the welfare of humanity. This being true, an unbiased judge would surely decide that we have no just reason for claiming greater compensation for our services.

If we are honest in our protestations of non-commercialism we could not object to this. Whether we object or not as long as the present conditions prevail the proportion of physicians will undoubtedly increase. There are yet many hamlets throughout the country without physicians where a physician could earn a fair living, and these doubtless in the future will absorb a large number of the graduates.

Dr. Brower used to tell us at "Rush," never to locate in a town that had no physician, as there was nothing to be made in a place where there was no physician. I do not believe, however, that this is invariably true.

While I am not familiar with conditions in the city, I would suggest that possibly the cause of the poverty of the many is due to the large incomes received by the few who are especially proficient or popular, and the question is simply one of the "survival of the fittest" which prevails in all trades and professions. A. W. Clouse, M.D.

Married.

T. Eben Reeks, M.D., to Miss Katherine C. Garrison, both of Newburg, N. Y., August 7.

John H. Groshans, M.D., to Miss Nellie L. Wheeler, both of Baltimore, Md., at Wilmington, April 29.

James A. Taggart, M.D., Salamanca, N. Y., to Miss Sarah H. Johnson, Buffalo, at the home of the bride, August 7.

Augustus Wright Ives, M.D., Detroit, Mich., to Miss Julia Clare Chandler, Ogdensburg, N. Y., at the home of the bride, July 31.

Major Ralph S. Porter, Surgeon U. S. V., formerly of Chicago, to Miss Lydia Kilgour, Glen, Md., at Rockville, Md., August 7.

Lieut. Allie Walter Williams, Acting Assistant-Surgeon, U. S. Army, stationed at Governor's Island, to Miss Elizabeth Morris Semple, Washington, at Jersey City, N. J., August 3.

Deaths and Obituaries.

Jesse Hawes, M.D., University of Michigan, Ann Arbor, 1868, Long Island College Hospital, Brooklyn, 1871, died at his home in Greeley, Colo., from angina pectoris, August 4, aged 58. At the age of 18, he enlisted in the Ninth Illinois Infantry, serving until captured during an engagement in 1864, and until the close of the war was confined in Cahaba prison, Alabama. This imprisonment, together with a wound received in a battle in 1862, left his health permanently impaired. He has written a book entitled "Cahaba," which is of considerable historical value, and in which he described his prison life. He practiced for a time in Iowa, but in 1872 he went to the newly founded town of Greeley, where he made his permanent home. He was a member of the first Board of Medical Examiners of Colorado, and later was on the State Board of Health, doing much to elevate the character of the profession. He was an ex-president of the State Medical Society, a trustee of the State Normal School, and at one time was Lecturer on Obstetrics in the University of Denver. At the Detroit meeting, in 1892, he was elected fourth vice-president of the American Medical Association. He was a member of the National Association of Railway Surgeons, and the American Academy of Railway Surgeons.

William A. Newell, M.D., University of Pennsylvania, Philadelphia, 1839, died at his home in Allentown, N. J., August 8, aged 84. He was the originator of the United States life-saving service, and was appointed by President Lincoln superintendent of that work in this country. He was the first republican governor of New Jersey, serving from 1857 to 1860, was a member of congress, 1847-48, 1865-67, and was Governor of the Territory of Washington from 1876 to 1880.

Frank K. Paddock, A.M., M.D., Berkshire Medical College (now extinct), 1864, died at his home in Pittsfield, Mass., July 26, after a long illness, aged 60. He was at one time dean of the Berkshire Medical College, in which college he held a professorship until its dissolution in 1867, and has been chief surgeon to the Pittsfield House of Mercy from the time that it was founded, in 1875. He served two years as president of the Massachusetts Medical Society.

Charles Hampden Field, M.D., Medical College of Alabama, Mobile, 1878, died from inhalation of illuminating gas at Alameda, Cal., August 6. He was surgical dresser at King's College Hospital, London, 1874-5, and was later an acting assistant-surgeon, U. S. Army. As an examining surgeon of the Pension Bureau he served seven years. He was a practitioner at Price, Utah, and was formerly located at Rock Spring, Wyoming.

David Kennedy, M.D., College of Physicians and Surgeons, New York, 1860, died of apoplexy while addressing a public meeting, August 5, aged 65. He was at one time mayor of Kingston, N. Y., where he had long resided. During the civil war he was a surgeon and took part in several important engagements; later he was stationed at Fortress Monroe, and then at the Saterlee Hospital, Philadelphia, until the close of the war.

Abia H. Light, M.D., University of Pennsylvania, Philadelphia, 1862, died at his home in Lebanon, Pa., July 21, after a long illness, aged 62. During the civil war he was a surgeon in the Pennsylvania Volunteers, and in 1864-65 he was the chief executive officer of the general hospital at Washington. He was in McClellan's retreat from the Peninsula, and also was with Gen. Sherman in his famous march to the sea.

James V. Kendall, M.D., Geneva Medical College, Geneva, N. Y. (now extinct), 1844, died at his home at Baldwinsville, N. Y., August 5, aged 83. During the civil war he was surgeon of the 149th New York Volunteers, serving from 1862 to 1865. In 1869 he was a member of the Assembly from Onondaga county and was always active in politics, but without sacrificing his interest in medicine.

Hiram O. Bolles, M.D., Philadelphia College of Medicine and Surgery, 1865, died at his home in Springfield, Ill., August 8, aged 63. During the civil war he was a surgeon at the military hospital at Savannah, Ga., and served until the end of the war. He was president of the Board of Water Commissioners of Springfield for many years and a member of the City Council.

William W. Watkins, M.D., Washington University, St. Louis, 1872, was shot and killed by an insane man, while driving through the streets of Moscow, Idaho, where he lived. At one time he practiced in St. Louis, Mo., but went West on account of his health in 1884. He was a member of the American Medical Association, and was 55 years of age.

Frank P. Bingham, M.D., University of Buffalo, 1899, while riding a bicycle in Buffalo, was struck by a street car and killed almost instantly. He was 28 years of age and was recently appointed on the staff of the German Hospital Dispensary, having formerly been house physician in the German Deaconess Hospital and the German Hospital.

Nathaniel M. Jones, M.D., University of Wooster, Cleveland, Ohio, 1866, who has been a practitioner of Cleveland for twenty-six years, died at his home there, August 1, aged 61. He served for three years during the civil war as an assistant-surgeon.

Newton Sedwig Read, M.D., Western Reserve University, Cleveland, 1844, died at Virginia, Ill., August 10, aged 81. He was a native of Ohio, but since 1852 he had practiced in Cass County, Illinois.

Lyman P. Stookey, M.D., Missouri Medical College, St. Louis, 1872, died at his home in Belleville, Ill., August 2, aged 57. He was at one time president of the St. Clair County Medical Society.

George A. Sweeney, M.D., University of Pennsylvania, Philadelphia, 1898, died at Chester, Pa., August 2, from smallpox contracted while acting as quarantine officer.

Frank R. Eversole, M.D., Missouri Medical College, St. Louis, 1876, died from carcinoma of the stomach, at his home in St. Louis, August 4, aged 46.

Albert S. Elliott, M.D., Western Reserve University, Cleveland, 1892, died at his home in Cleveland, August 2, from typhoid fever, aged 30.

Benjamin A. Oglesby, M.D., Hospital College of Medicine, Louisville, Ky., 1890, died at Louisville, August 4, after an illness of two years.

Edwin E. Whitcomb, M.D., University of Buffalo, 1875, died at his home in Rochester, N. Y., from paralysis, August 1, aged 50.

Miscellany.

Italian Congress of Pediatrics.—The principal subjects to be discussed at this congress which convenes at Florence, October 15, are "Primary Infantile Atropthy," "The Septic Condition of the Respiratory Apparatus in Early Infancy" and "Acute Gastro-Intestinal Affections in Infancy."

New Phase of Professional Responsibility.—A Paris court recently awarded damages to a patient who had been burned by sublimate used by mistake for cocain. The cocain bottle was empty and the operator sent one of the nurses in the hospital to have it filled. The court censured the operator and awarded damages because he had not gone, personally, to fill the bottle.

Contagiousness of Leprosy.—An instance of acquired leprosy is related in the *St. Petersb. Med. Woch.* A Russian soldier returned home with leprosy. Six years later his mother developed the same disease, with the same symptoms as her son, and both died of general marasmus. Three years later the soldier's sister developed the disease, and, after another three-year interval, her husband also.

Infant Hygiene in Paris.—The Paris prefect of police has had the walls placarded with a circular calling attention to measures of infant hygiene during the heated term, warning not to wean infants, nor feed them from bottles with tubes, to boil all the bottles, etc., and protect them from dust, and to refrain from giving fruit to children under 3 and over this age only in moderate amounts, and cooked, and finally, at the first symptom of disturbance on the part of the child to summon a physician.

Treatment of Elephantiasis with Injections of Calomel.—S. Schaginjan reports that a case of elephantiasis improved remarkably under subcutaneous injections of calomel in a 5 per cent. suspension in vaselin oil. In the course of two and one-half months .9 calomel was injected at intervals from three to eight days. The size of the limb diminished very much; the tissues gradually assumed their normal aspect. The edema vanished completely and the patient was able to move about, for the first time in years.

The Monument of the Internat.—A bas-relief in marble is to be erected in the inner court of the Paris Hotel-Dieu next spring, on the occasion of the centennial celebration of the founding of the "internat," or system of internes in hospitals. The bas-relief is to represent the operation of tracheotomy, as before the discovery of serum treatment of diphtheria, the efforts of the internes to save the lives of children suffocating in croup were the cause of many deaths among them. The names of these victims of their profession will be inscribed at the base of the tablet.

Radiotherapy in Ophthalmology.—E. A. Nesnamow describes in *Westnik Oft.*, 1901, 1, his experiments with radiotherapy of the eye, applied according to Finsen's principles. After convincing himself on rabbits of its efficacy, he tried it in seven clinical cases with surprisingly beneficial results. The portion of the human eye which contains no blood vessels is peculiarly adapted to be submitted to the action of the violet rays. Severe suppurative affections of the cornea were improved by this treatment so that operation was rendered unnecessary. Suppuration after a cataract operation was arrested and retrogressed under the influence of the rays. The light seemed to soothe the pain. No injurious effect on the retina was observed.

Abdominal Diagnosis.—In a communication to the *Ztft. f. Klin. Med.* xxxvi, A. Fuchs calls attention to the valuable information that can be derived in regard to condition of the intestines by injecting a fluid. Colic pains and contractions usually follow this procedure, but there is nothing of the kind if the intestines are first evacuated with glycerin, and then, after a time, .75 to 1 liter of 8 to 10 per cent. salt solution are cautiously injected. The entire large intestine becomes palpable. The clinging of the intestinal walls to fecal tumors is detected by this means. The flexures of the colon and cecum stand out distinctly, and all the abdominal organs are influenced by the change in the shape, size and position of the intestines and are thus more readily palpated.

Gelatin Tubes for Suture of Nerves and Tendons.—Tubes of decalcified bone and magnesium have been suggested for the suture of nerves and tendons, but these substances are absorbed too rapidly to answer the purpose in all circumstances. G. Lotheissen, of Innsbruck, finds that gelatin tubes, hardened in a 2 per cent. solution of formol, for forty-eight hours, fulfill all the desired conditions for the suture of tendons. The tubes are not absorbed for six weeks. In suturing nerves, he uses tubes that have been in the formol solution for sixty-two hours, which resist absorption for two months. In case of loss of nerve substance, requiring a long time for regeneration, he advises soaking the tubes for six or seven days in the formol. He has used these tubes to suture nerves or tendons in seven cases and found the results perfect in all except one case in which it proved impossible to obtain primary intention and consequently the tube dissolved in four days. Prevention of the formation of adhesions with adjacent tissues is one great advantage of tubulization.

Patent Medicine in Austria.—The United States consul general at Vienna, Austria, C. B. Hurst, has this to say regarding patent medicines in Austria:

"In consequence of many inquiries addressed to this Consulate General in the matter of the government regulations in Austria regarding the importation and sale of patented medicinal and chemical preparations, I would report that the sale of 'arcana,' or secret remedies, has always been strictly forbidden in this monarchy. Trade in such medicines and advertisements of the same are under strict surveillance of the law. Further, those medicinal preparations of which the prescriptions are not open to inspection by physicians, or in the prescription of which the substance of the medicinal ingredients can not be definitely recognized as to kind and quantity, may not be kept for sale in apothecaries. Only those manufactures may be considered as pharmaceutical specialties that contain drugs acknowledged to be medicinal remedies, as, for instance, balsam copaibæ, oleum santali, and the like. Every new medicinal preparation intended for use by the public must be reported to the authorities, and its sale may not be begun until said authorities have found no reason to prohibit the same. Prescriptions of foreign medicines must be accompanied by precise directions for their preparation from the foreign manufacturer, and be provided with his signature and business stamp. Altogether excluded are cosmetics that by their labels, wrappers and advertisements are affirmed to be efficacious in the removal of personal blemishes—impure skin, freckles, liver spots, and baldness—and are, therefore, qualified as remedies. The regulations in Austria in regard to the advertisement of patent medicines are likewise strict. All laudatory notices in local publications of cures and remedies coming from abroad constitute a transgression of the trade laws, and, under certain circumstances, foundation for complaint of unlicensed medical practice."

Technique of Draining the Uterus.—Gauze drains sometimes fail to evacuate all the secretions, and tubes are liable to be expelled. F. Franke uses an ordinary rubber drain inserted in the uterus and fastened in place with one or two stitches. By this means the cervix is permanently dilated and drainage can be maintained as long as desired without inconvenience.

Direct Franklinization of the Rectum for Constipation.—Bordier reports the successful cure of several cases of habitual constipation from atony of the intestines, by direct Franklinization according to Herz, of the rectum itself. He inserts the electrode into the rectum, a brass tube with a spherical tip, insulated at the portion corresponding to the sphincter. The sensation is not painful, resembling a dull shock without heat. The action is more vigorous if the electrode is connected with the outer armature of the Leyden jar at the positive pole of the machine.

An Illegal Practitioner Prescribes Poisonous Doses.—The New York State Medical Association are searching for a man in New York city who is practicing medicine illegally. This man is considered to be a dangerous person to be at large, as he has seemingly no knowledge of drugs. He recently wrote a prescription for a mixture to be taken internally that would have caused instant death. It was this prescription that led to his discovery. The prescription was given to a druggist to be filled by the man who had gone to the bogus doctor for treatment. The druggist said he could not fill the prescription, as it called for enough poison to kill many persons.—*N. Y. Med. Journal*, August 10.

The Saltpetriere and its Head Nurse.—According to a decree of Mazarin, who was prime minister of France about 1656 when the old saltpeter works at Paris were transformed into a great hospital and lunatic asylum for women, still known as the Saltpetrière, nurses serving continuously for twenty years were entitled to free board and lodging thereafter. Mlle. Bottard, who retires this month, entered the service as nurse in 1840, and has thus served for sixty-one years. Her skill and devotion won for her the ribbon of the Legion of Honor, very rarely conferred on a woman. Charcot used to say that he owed much of his success to her assistance.

Cure of an Enormous Dissecting Aneurysm.—A remarkable case of dissecting aneurysm as large as an ostrich egg, in the rear wall of the aorta, is described by F. Harbitz in the *Norsk Mag. f. Laegev.* for March. The aneurysm had been diagnosed seven years before the death of the patient, a man of 54, who succumbed to pulmonary and generalized tuberculosis. The aneurysmal sac was multilocular, and was supplemented by a canal commencing in the sinus of Valsalve and continuing along the aorta to its bifurcation, and thence along the primary iliac artery to an opening 3 cm. in diameter. Some of the arteries, such as the right renal, opened directly into this supernumerary aorta and probably prevented its rupture. It was lined with endothelium.

Resolutions Adopted by the Latin-American Congress.—The Congress passed resolutions, among others, in favor of the compulsory declaration, etc., of infectious diseases, of isolation hospitals, sanitariums or colonies for lepers, of hospitals for incurable consumptives and sanitariums for the curable cases, with seaside sanitariums for tuberculous children. Another resolution urged research on buccal respiration among children in the Latin-American countries. The Congress also voted in favor of the education of the public in regard to the increasing and imminent danger of hydatid infection, and advised that prophylactic measures be taught in the primary schools. In regard to the prophylaxis of yellow fever, resolutions were adopted in favor of substituting sanitary observation for disinfection. Sanitary inspectors for ships should be appointed in sufficient numbers, the expenses to be borne indirectly by the navigation companies. Subjects appointed for discussion at the next congress are the "Protection of Infancy" and the "Prophylaxis of Syphilis."

Too Many Doctors.—The Journal of the American Medical Association is of the opinion that there is a surplus of doctors in the United States, and regrets that the surplus is increasing. There is now one doctor to every 600 of population. As this is not on the whole an unhealthy country, one physician ought to be able to look after the aches and pains of a thousand ordinary people. Wherever more men are employed to perform any kind of service than are actually needed, either the community has to pay too much for services rendered or some of the men employed must be unable to make more than a bare living, if they make that. According to The Journal 1600 doctors die yearly, in spite of their skill, but almost 6000 are born. The medical colleges, although the requirements are severer than formerly, are turning out 6000 graduates a year. If this keeps on, how long will it be before there is one doctor for every 100 of the population? Then societies will have to be organized for the relief of starving M.D.'s. It is odd that so many young men should wish to study medicine when there are so many doctors, and when the physician has to face the competition of faith-healers and prayer-healers, who say they can cure any disease, and of "christian scientists" who assert that there is no such thing as disease. Probably the often-quoted statement that "there is always room at the top" in an overcrowded profession is responsible for the existence of numbers of poor lawyers and doctors. Nearly every young man who is about to begin the study of medicine is convinced that he will reach the top and will get the big fees for surgical operations or medical treatment that he reads of. Perhaps he will, but the chances are about 2000 to 1 against him. This is a point which medical colleges, naturally enough, do not impress on students. They do not endeavor to discourage the young men who are willing to pay them money for an education. But it would be a kindness to many of these, and to the community generally, if the authorities of medical colleges would tell many of their students that while "there is always room at the top," they never will get there—nor half way there—but will remain near the bottom, where it is always overcrowded, and hence ought to drop medicine and turn to something else.—Editorial, *Chicago Tribune*, August 1.

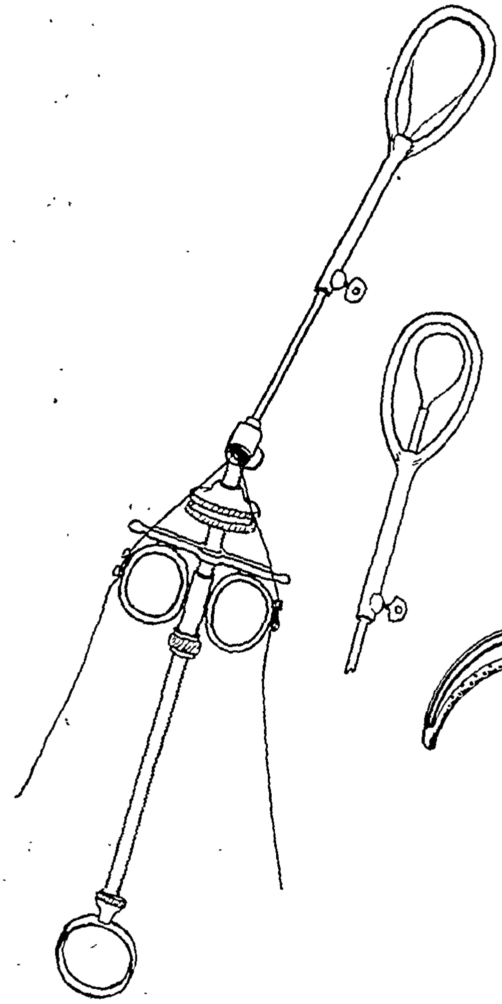
New Instruments.

A SNARE GUARD FOR INGALS' OPERATION OF ECRASEMENT OF THE TONSILS.

OTTO T. FREER, M.D.

CHICAGO.

The operation is described in detail in Ingals' "Diseases of the Chest, Throat and Nose," 4th Edition, page 435. It is done under anesthesia, the patient lying on his side with one arm behind his back and his face looking towards the operator and slightly downward. A gag is inserted, the tongue strongly depressed with a tongue depressor by an assistant, and the uvula seized with a slender forceps to hold it out of the way of harm. The tonsil is now grasped with an especially constructed forceps which includes in its blades the whole of the tonsillar substance, even to its deepest attachment between the pillars. If the latter are adherent to the tonsil they are separated by means of a palate hook as a preliminary. The loop of a strongly constructed snare is next passed over the forceps and beneath its beak around the attachment of the tonsil, which is cut off by tightening the loop by means of a milled nut and screw thread. There are never more than a few drops of blood following the procedure. The operation will remove intramural or buried tonsils that will not come into the ring of the tonsillotome; it can be used to remove tonsils that offend by repeated inflammation, but are too small for tonsillotomy; it evulses the tonsil thoroughly from its bed, and on account of the practical absence of bleeding it can be employed as a preliminary to adenoid operations. The operation is therefore a very valuable one, but heretofore two factors have made it difficult and at times uncertain. The first of these was the tendency of Ingals' forceps to slip off from the tonsil seized. This occurs in small and soft tonsils and is annoying. To overcome this I have had the forceps constructed with three instead of two teeth to each blade, so that now these never loosen their grasp.



The second difficulty was more serious and compelled me to abandon the operation in one case. The wire loop instead of slipping over the forceps and under the tonsil became bent out of shape in the mouth by reason of muscular contractions of the tongue or lack of room. The wire would then encircle the forceps instead of the tonsil, necessitating the insertion of one or more new loops into the snare, and causing loss of time and embarrassment to the operator. For this reason I have constructed a steel snare guard which contains the wire loop in a groove. By means of this guard the loop can be slipped over the forceps and onto the tonsil rapidly and certainly, so that the operation can be performed without a halt. After the guard carrying the wire has been passed under the beak of the forceps the set screw which attaches it to the tube of the snare is loosened and the loop tightened over the tonsil. If this is not done the drawing in of the loop will thrust the snare guard back into the wall of the pharynx. While passing the guard over the forceps into the mouth the wire must be held in its groove by pressing it forward with the traveling carriage of the snare. An Ingals' snare is used with No. 5 steel piano wire. The instrument has proved very satisfactory to me and to others.

If the operation with the tonsillotome would accomplish in all instances what can be achieved by écrasement the latter method would be too complicated to compete with it, but tonsillotomy is not suited for the removal of intramural tonsils, and its use must necessarily be restricted to ablation of enlargements which project beyond the pillars, while the snare is eminently fitted to enucleate tonsils which are buried between them. The objection to the cautery operations devised for buried tonsils is the danger of secondary hemorrhage, and the fact that they are not well applicable to children.

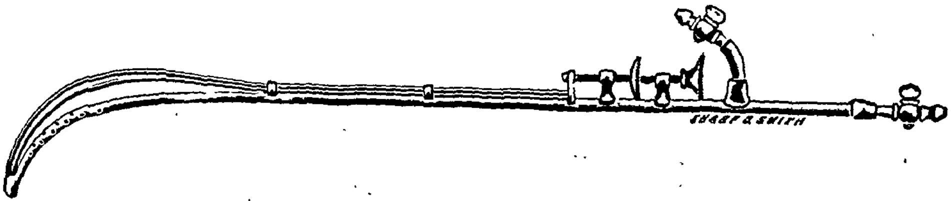
288 East Huron St.

PROSTATIC DILATING IRRIGATOR.

F. A. LEUSMAN, M.D.

CHICAGO.

The high price and expensive repairs of the Kollmann dilating irrigator led me to construct an irrigating prostatic dilator from the type of Leonard's uterine dilating irrigator. Adapting the instrument to the anatomy of the parts, confining the area of dilatation to the prostatic urethra and attaching separate shut-offs for the in-flow and out-flow, resulted in the production of this instrument, that in my hands has proven an efficient dilator—it dilates up to 45 F.—and irrigator. By carrying the amount of dilatation in the use of this instrument to a no higher degree than the patient can willingly or comfortably endure, we are enabled to express the mucus plugs and pus from out of the prostatic follicles, wash and clean the parts thoroughly with a 4 per cent. sterilized boric acid solution (95 F.) and then apply by means of Guyon's catheter, a few drops of a stimulating solution of 1 per cent. argent. nitr.; 5 per cent. cupr. sulph., or 10 per cent. protargol solution to a clean mucosa free from pus. Treatment once in 5 to 7 days, with the strictest attention to asepsis, along such lines has given comfort and relief to chronic sufferers afflicted with prostatitis, chronic posterior gonorrheal urethritis and cystitis of non-tubercular or neoplastic origin. It would appear that an irrigating dilator, if necessary at all, is required only in chronic inflammation of the posterior urethra, never in acute conditions of any part, or even chronic conditions of the anterior urethra.



Societies.

COMING MEETINGS.

Rocky Mountain Inter-State Medical Association, Denver, Colo., Sept. 3-4, 1901.

American Association of Obstetricians and Gynecologists, Cleveland, Ohio, Sept. 10, 1901.

American Academy of Railway Surgeons, Chicago, Sept. 12-13, 1901.

Mississippi Valley Medical Association, Put-in-Bay, Sept. 12-14, 1901.

Conference of State and Provincial Boards of Health of North America, Niagara Falls, Sept. 13-14, 1901.

American Public Health Association, Buffalo, Sept. 16-20, 1901.

Medical Society of the Missouri Valley, St. Joseph, Mo., Sept. 19, 1901.

Medical Society of the State of Pennsylvania, Philadelphia, Sept. 24-26, 1901.

American Electro-Therapeutic Association, Buffalo, Sept. 24-26, 1901.

Hartford County (Conn.) Health Officers' Society.—At the annual meeting of this Society, held at Hartford, August

1, Dr. Charles G. Rankin, Glastonbury, was elected president, and Dr. Wilber P. Bunnell, New Britain, secretary.

Southern Minnesota Medical Association.—The tenth annual meeting of this Association was held at Rochester, August 1, and the following officers were elected: President, Dr. Arthur S. Adams, Rochester; vice-presidents, Drs. Milan J. Hart, Le Roy, and Allan B. Stewart, Owatonna; secretary and treasurer, Dr. William T. Adams, Elgin. The next meeting will be held at Owatonna.

Central Wisconsin Medical Society.—At the annual meeting of this Society, held in Madison, July 30, the following officers were elected: President, Dr. James A. Jackson, Madison; vice-presidents, Dr. Ernest C. Helm, Beloit, Dr. Marshall T. Martin, Merrimack, Dr. Samuel R. Moyer, Monroe, and Dr. Ledyard V. Lewis, Sun Prairie; secretary and treasurer, Dr. Charles S. Sheldon, Madison.

Crow River Valley Medical Society.—At the nineteenth annual meeting of this Society, held at New Paynesville, Minn., August 6, the following were elected officers: Dr. Frank E. Bissell, Litchfield, president; Dr. Pierre C. Pilon, New Paynesville, vice-president; Dr. James W. Robertson, Litchfield, secretary, and Dr. Frank M. Archibald, Atwater, treasurer. The next meeting will be held at Atwater.

Northern Tri-State Medical Association.—The annual meeting of this Association was held at Angola, Ind., July 30, and the officers for the ensuing year were elected as follows: President, William H. Baldwin, Quincy, Mich.; vice-president, Dr. William J. Gillette, Toledo, Ohio; secretary, Dr. Hugh D. Wood, and treasurer, Dr. Theodore F. Wood, both of Angola, Ind. The next meeting will be held at Toledo, Ohio.

Lehigh Valley Medical Association.—The twenty-first annual meeting of this Association was held at Mauch Chunk, Pa., July 24, and the following officers were elected: President, Dr. Charles P. Knapp, Wyoming; vice-presidents, Dr. Joseph A. Horne, Mauch Chunk, Howard S. Reeser, Reading, William H. Hartzell, Allentown, and Edgar M. Greene, Easton; secretary, Dr. Charles McIntire, Easton; assistant secretary, Dr. William P. Walker; treasurer, Dr. Abraham Stout. The next meeting will be at Wilkesbarre.

Washoe County (Nev.) Medical Association.—The permanent organization of this Association was perfected at Reno, July 29, by the election of the following officers: President, Dr. H. H. Hogan; vice-president, Dr. George H. Thoma; secretary, Dr. S. E. D. Pinniger, and treasurer, Dr. George Fee, all of Reno. A standard scale of fees was adopted.

Multnomah County (Ore.) Medical Society.—This Society has just been organized and duly incorporated. The incorporators are the officers elected at the recent meeting in Portland, who are as follows: President, Dr. James T. Walls, Portland; vice-presidents, Drs. Thomas Darling, Mount Tabor, J. M. Short, Gresham, and Malcolm J. Jenny, Portland; secretary, Dr. Aaron Tilzer, Portland, and treasurer, Dr. Arthur J. Vail, Portland. The constitution has been signed by thirty-one physicians, and all of the regular practitioners express themselves as being heartily in favor of the movement. It is expected that as soon as the summer vacations are over almost all the regular physicians will be enrolled as members.

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting Held at San Francisco, July 23.

Dr D. W. Montgomery in the Chair.

Gastro-enterostomy for Inoperable Carcinoma of Pylorus.

Dr. J. Henry Barbat read a paper with the above title, reporting two cases.

The first case was one that he reported last year in The Journal (vol. xxxiv, p. 1405). Just prior to the operation the patient, a woman, weighed 83 pounds and was *in extremis*, having vomited almost incessantly for several months. At the time of operation the carcinoma involved the pylorus, and was adherent to the liver and the anterior abdominal wall, making it impracticable to attempt its removal, especially as the condition of the patient would not permit of any extended operative procedure. He therefore did a gastro-enterostomy according to Roux, using Murphy buttons instead of sutures. The patient's condition was so bad at the end of the operation that the abdominal wall was sewed with through-and-through sutures in order to save time. Her condition was very precarious for the first three days, but she did not vomit once and was able to take a small amount of nourishment. Her appetite became enormous and she began to gain weight immediately, weighing 93 pounds three weeks from the day of operation. At present she weighs over 150 pounds and feels as well as she has ever felt. The tumor which at the time of operation was fully three inches in diameter has apparently completely disappeared, and the patient suffers no appreciable disturbance of digestion. There are two ways that we can account for the disappearance of the growth; one is that it was not malignant, and the other that the physiologic rest of the pylorus caused a spontaneous arrest of the cancerous process with absorption of the tumor. Jessett, in the *Lancet*, reports the disappearance of a large pyloric tumor after gastro-enterostomy, the patient living ten years after the operation and the postmortem showing complete disappearance of the growth, which at the time of operation appeared to be a scirrhus of the pylorus.

He operated on another case last May, which also illustrates the benefit of these operations. The patient had been vomiting within a short time after the ingestion of food for a period of over one year before she sought the services of a physician. A mass could be felt in the region of the pylorus which was tender on pressure and which moved about within a limited area. The examination of the stomach contents showed complete absence of hydrochloric acid, and a diagnosis of cancer of the pylorus was therefore made. On opening the abdomen it was seen that the case was inoperable as far as removing the growth was concerned, because adhesions existed to all the surrounding structures, and besides the entire peritoneum, parietal and visceral, was studded with patches which were probably malignant. It was therefore decided to do a gastro-enterostomy, which was accomplished by means of two Murphy buttons, one between the stomach and the cut end of the jejunum, and the other between the proximal cut end of the jejunum and the side of that viscus six inches from the stomach. The patient made a perfect recovery, having no vomiting and being able to take nourishment the day following. The buttons came away on the tenth and eleventh days, respectively, and the digestive apparatus is working perfectly at this writing. She has, however, symptoms of undoubted involvement of the lungs, and will probably succumb to the disease shortly.

These cases show the great relief which may be afforded these most unfortunate sufferers, and in the first case the possible cure of the disease by means of a comparatively harmless operation, which, if it should result fatally, has simply shortened the awful misery which these patients suffer after the stenosis of the pylorus becomes almost complete.

The author believes that the success in these operations, especially when the patients are much exhausted, depends to a great extent on the rapidity with which the operation is completed, as cancerous patients do not stand long operations well; therefore, no time must be lost after opening the abdomen, and the operator must determine rapidly whether the tumor can be removed safely or not, or whether it will be best to do a gastro-enterostomy. His judgment is that unless the tumor mass can be easily lifted out of the abdominal cavity it is better to do the simpler operation, because if adhesions exist it will probably be found that the disease has extended so far that its complete removal is impossible, and any endeavor to break up adhesions in malignant disease is fraught with great danger, from hemorrhage, and fails to accomplish the purpose of the operation.

He believes that the success of the two operations reported is due to the fact that he made use of Murphy buttons instead of sutures in making the anastomoses. The first case would undoubtedly have died on the table if suturing had been attempted, because even the most expert surgeon can not place sutures with the same rapidity that the Murphy button can be inserted, and this patient's condition was such that they had difficulty in keeping her alive until the end of the operation.

Furthermore, the most frequent cause of death subsequent to the operation is infection due to leaking at the point of suture; this is reduced to a minimum by the use of the Murphy button, because the apposition by the use of this device is more perfect than can ever be attained by the most expert suturing. The anatomical result after the use of the Murphy button is more perfect than by any other method because the first closure of the two portions of the button causes a pushing aside of the mucosa and muscularis, leaving nothing but the peritoneum and submucosa between the jaws of the button. After a few days the peritoneum, being less resistant than the submucosa, is also forced out, leaving nothing but the latter to hold the button in place. After the button has become separated and passed away the mucosa grows across the cicatrix so that no solution of continuity is apparent, even under the microscope. The two submucous layers are in perfect apposition, as is also the peritoneum; the only layer which is not anatomically correct is the muscularis, and it has been shown that as yet no method has been found to cause unstriped muscular fiber to unite in such a manner that no scar tissue intervenes.

Therefore, in favor of the Murphy button there are the saving of time, the ease of application and the superior anatomical result; the only argument against its use which could be put forth is the possibility of the button not coming away, and time and experience have shown that when this does occur it is due to either faulty technic or a faulty button. Some writers have complained that the opening made by the Murphy button is more likely to contract than that made by the suture method; this is certainly unreasonable in view of the perfect anatomical result obtained by the use of the button as compared with that obtained by the use of any other method. It is well to remember that the opening left by the button can not be larger than the diameter of the button itself, and one mistake which is often made by operators is to use a button of small diameter; one must use the largest button which can be easily introduced into the lumen of the small intestine when operating on that viscus, and the same rule holds good in the case of the large intestine. The fear that the button will not pass the ileocecal valve is more imaginary than real; while a few cases have been reported of this accident, he believes that if they were carefully investigated that one would find some disease of that portion of the bowel present which caused stenosis, because if this were not so the accident would happen much more often than it does.

Dr. Philip King Brown said that he had seen the patient a few years ago and had made a diagnosis of carcinoma; at that time she had cachexia; vomited food and an examination of her stomach contents showed no free HCl, but large quantities of lactic acid. Immediate operation was advised; he thought that it must be admitted that the tumor was malignant. There were cases where tumors had disappeared before. He had seen a case in the Pennsylvania hospital where at the time of operation the growth was so large that it was thought best not to remove it, and the wall was closed up; three weeks later the tumor was much smaller. He thought that there could be no question that it was cancer; there were no symptoms of syphilis and the question of it being benign did not seem worth consideration. The history had been carefully recorded by Dr. Barbat, and if it could be proven in any way that it was malignant, the case would be an important one. When he saw her a year ago he told her that if she was not operated on immediately she would be dead in six months.

Dr. James McCone said that inflammatory masses in the abdomen were often mistaken for tumor formation. It seemed quite reasonable that one could find a tumor due to inflammation, if there was an ulcer, and one that was palpable, and he would certainly hesitate to make a diagnosis of cancer of the pylorus on the data given by Drs. Barbat and Brown.

Dr. D. W. Montgomery said that it seemed to him that if it was a scirrhus of the pylorus, then it must have been one of those slow, cicatrizing scirrhus tumors which created a much larger tumor than it would otherwise do, because of the irritation of the food rubbing up against it, and because of the stomach trying to force the food through the pylorus, which irritation being removed by the food passing in a different direction, the tumor growth alone continued. He thought that the view might be plausible. We know that some of these scirrhus carcinomas are exceedingly slow of growth, but the chances of their being slow are exceedingly rare. He had seen one case, however, of scirrhus cancer, which he removed postmortem from the posterior wall of the duodenum, about midway between the pylorus and the entrance of the bile duct. The man died of anemia simulating pernicious anemia. That was years ago. The tumor was quite small, about the size of a quarter of a dollar. The duodenum was evidently not stenosed, and the trouble in the stomach, which was enormously dilated, was probably a failure to shove the food along because the food irritated the surface of the cancer. Of course, the food did not digest, and the anemia increased. As the anemia deepened, the muscle fibers became slack because of poor nourishment, and the dilatation of the stomach increased. He was a long time ill, and the Doctor supposed the cancer to have commenced probably a considerable time before he showed signs of illness. A somewhat similar slowly growing cancer may be still growing at the pylorus of the patient under observation. In the operation, you simply switch the food, and relieve the irritation. He had no faith in the cure of the patient, if it was cancer. The inflammatory products are simply absorbed, and we do not find the tumor. He could not imagine that cancer of the pylorus could undergo spontaneous cure. Cancer of the breast is said to have done so by sloughing, but there was no sloughing here. If such a huge amount of necrosis had taken place, it would go into the peritoneal cavity. The fact that there is a tumor is not conclusive, there being no HCl is not conclusive, nor is the situation conclusive of cancer of the pylorus. But the fact that the patient got well is much more conclusive evidence that the patient never had cancer of the pylorus at all.

Dr. Barbat said in closing that the absence of HCl did not determine the presence of carcinoma, but was a confirmatory diagnostic point. The case had been gone over thoroughly, and all the classic symptoms of carcinoma of the pylorus had been found. On abdominal section he found that the tumor mass was part of the pylorus, circular in character, involving the entire thickness of stomach and pylorus; hard and firm, and presenting all the macroscopic appearances of cancer of the pylorus. Clinically the mass was carcinoma. In all malignant growths physiologic rest to the parts allows the inflammation to subside and possibly during the absorption of the inflammatory products absorption of the epithelial cells which formed the malignant growth could also have taken place.

Verrucae of Buccal Mucous Membrane.

Dr. H. Kugler reported the case of Miss N., 22 years, German, who had warts on her hands for many years. These disappeared three years ago; two years ago a small growth appeared on the inner surface of the lower lip; gradually more appeared until at the present time the inner surface of both upper and lower lips and the buccal cavity on either side, to the second molar teeth, are covered with small warty growths. Lately a few have made their appearance on the outside of the upper lip, near the margin of the skin. There is no pain, but they are frequently bitten, bleed freely and the main source of annoyance is their prominence and the consequent disfigurement the moment the mouth is opened.

Acute Lymphemia with Estival Malaria.

Dr. Philip King Brown exhibited a patient, A. R., Frenchman, aged 44, resident of Fresno, who came to the Doctor in September, 1896, with a history of an occasional chill, continued fever, weakness and malaise dating back five weeks. No previous illness; no syphilis; no trauma. Patient a stout, well-built man, with yellowish color to skin not unlike jaundice, but the sclera was white. The temperature was 102.2; pulse, 120. The spleen was easily felt, not tender; the liver was 10 cm. in the right mammillary line. Heart and lungs presented nothing abnormal. Urine was negative. The glands all over the body were enlarged slightly, but not tender. There was no eruption, no bone tenderness. There was neither scar nor sore on penis; the tonsils were not enlarged nor inflamed. Blood examination showed reds, 3,820,000; whites, 42,000; hemoglobin, 65. Of the white cells 82 per cent. were mononuclear lymphocytes and were nearly all large. A few crescent forms of the estival parasite were found, but no young forms were seen. The patient died six weeks later. No autopsy was made.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Treatment of Gastric Fermentation.

H. L. Esner, of Syracuse, N. Y., in *Internat. Med. Mag.*, recommends the following, stating his preference for the bismuth salts in combination with benzonaphthol:

℞.	Bismuthi subnit.	gr. v		30
	Bismuthi salicylat.	gr. v		30
	Pulv. ipecac.	gr. 1/6		01
	Benzonaphthol	gr. v		30

M. Ft. chart. No. i. Sig.: One such powder after meals.

With the above he gives small doses of belladonna and strychnia, or nux vomica:

℞.	Tinct. belladonnæ	m. lxxv	5	
	Tinct. capsici	gr. xx	1	30
	Tinct. gent. comp.	℥i	32	
	Aq. puræ, q. s. ad.	℥iv	128	

M. Sig.: One teaspoonful before each meal.

As to diet, he recommends the withdrawal of starches, sweets and cereals. Equal parts of milk with lime water in small quantities given at intervals of two hours if stomach is irritable. Later a mixed diet, including beef once daily, also eggs, milk, coffee and fruit for breakfast. Where fermentation is excessive, belching of gas annoying, constipation depressing, with pressure symptoms, he advises the following:

℞.	Strychninæ sulph.	gr. i		06
	Ext. belladonnæ flu.	m. x		60
	Aq. laurocerosi	℥iss	48	
	Tinct. gelsemii	ʒiii	12	
	Aq. puræ q. s. ad	℥iv	128	

M. Sig.: One teaspoonful before each meal.

Treatment of Ulcer of Stomach.

To relieve the pain, vomiting and acid eructations in gastric ulcer the following is recommended by Ewald:

℞.	Magnesiæ ust.			
	Sodii carb.			
	Potassii carb., āā	gr. lxxv	5	
	Pulv. rhei	ʒiiss	10	
	Sacch. lactis	ʒvii	28	

M. Sig.: As much as will rest upon the point of knife, dry on the tongue every hour.

Billings recommends the following to counteract the acidity:

℞.	Mist. rhei et sodæ	℥vi	24	

Sig.: Two to three teaspoonfuls after each meal.

Treatment of Simple Goiter in Adults.

Murray, in *Edin. Med. Jour.*, states that by administering thyroid extract in cases of simple parenchymatous form of goiter the prognosis is most favorable. When the extraordinary demand for thyroidal secretion is thus supplied, the hypertrophied gland is able to pass into resting state and thus undergoes partial atrophy, with consequent diminution in size. He compares this condition with the enlargement of the mammary gland during lactation, which as soon as the child is weaned and the demand for its secretion ceases, returns to a resting condition and decreases in size.

Treatment of Typhoid Fever in Children.

The following outline of treatment in typhoid fever is recommended by Legroux, as noted in *N. Y. Med. Jour.*: 1. Administer a purgative dose of mild chlorid of mercury, 5 to 10 grains in divided doses, as soon as the diagnosis can be made. 2. Administer naphthol according to the following indication:

℞.	Beta naphthol	gr. xxx	2	

M. Ft. chart., No. x. Sig.: One powder every hour. To be given in the diarrhea of lesser intensity.

℞.	Beta-naphthol	gr. xxx	2	
	Bismuthi salicylatis	gr. xxx	2	

M. Ft. chart. No. x. Sig.: One powder every two hours when the diarrhea is abundant.

And when constipation is present the following:

℞.	Beta-naphthol	gr. xxx	2	
	Magnesii salicylatis	gr. xxx	2	

M. Ft. chart. No. x. Sig.: One powder every two hours.

To Prevent Recurring Attacks of Hay Fever.

Wright, in *Charlotte Med Jour.*, recommends the employment of frictional massage in this trouble. He states that by this means the mucous membrane of the nose is hardened and thereby lessens its hypersensitiveness, and increases its power of resistance. This can be accomplished by using a piece of surgical cotton on an applicator. Friction must be made over as much of the mucous membrane as possible and applied twice a day. In this way the membranes become accustomed to the contact with foreign substances and will be enabled to withstand the irritation from any exciting agent. He states that there are no less than 20 square inches of mucous membrane in the nasal passages and consequently emphasizes the importance of rendering this area resistant. He states that the results show this method to be a positive preventive.

Treatment of Hemorrhoids.

℞.	Chloretoni	gr. xlviii	3	10
	Adipis benzoatis, q. s. ad	℥i	32	

M. Sig.: Apply locally; or:

℞.	Chloretoni	gr. xlviii	3	10
	Olei olivæ	ʒiiss	10	
	Lanolini q. s. ad	ʒi	32	

M. Sig.: Apply locally night and morning after first cleansing the parts well; or:

℞.	Chloretoni	gr. xxiv	1	60
	Lanolini	ʒiiiss	14	
	Olei olivæ	ʒiii	12	
	Liq. ext. hamamelidis	℥i	32	

M. Sig.: Apply Locally. —*Lyon.*

Eczema.

For the treatment of the ordinary eczemas of children the following is recommended by Leistikow as the best ointment:

℞.	Hydrarg. oxidi flavi	gr. iv-viii		25-5
	Adipis lanæ			
	Zinci oxidi			
	Amyli, āā	gr. lxxv	5	
	Vaselini	ʒiiss	10	

M. Ft. unguentum. Sig.: Apply locally once daily.

Treatment of Eczema.

W. R. Dalton, of New York, in *Phil. Med. Jour.*, still adheres to his theory as to the cause of eczema, that the chyme passing in a hyperacid condition from the stomach into the duodenum renders conditions such that the contents of the intestine can not be rendered sufficiently alkaline for proper metabolism. He believes that this condition leads to nearly all skin diseases. He, therefore, advises elimination of uric acid in conjunction with topical application. He advises strict diet, water in large quantities and at times a milk diet; an aseptic condition of the alimentary tract should be obtained as nearly as possible.

In cases of the strumous diathesis he recommends the following:

℞.	Ammon. sulph.-ichthyol	ʒi	4	
	Acidi arsenosi	gr. i		06
	Pulv. glycyrrhizæ q. s.			

M. Ft. pilulæ No. xl. Sig.: One or two after each meal.

Kromoyer and Grueneberg, in *Deut. Med. Woch.*, state that there are three indications for treatment of eczema; 1, rest of the skin against irritation by means of powders and salves as protectors; 2, in chronic cases the removal of chronic tissue change by using remedies such as tar, sulphur, green soap, chrysarobin, etc.; 3, indication is the cauterization of the acute inflammatory areas. They state that lenigallol is a remedy which can be used by the practicing physician with safety. It is the triacetate of pyrogallic acid, and is a white insoluble powder, but when placed on the crusts and pustules breaks up and causes a slight cauterization. They use it as follows:

℞.	Lenigallol	ʒv	20	
	Zinci oxidi	ʒii	8	

M. Sig.: To be used as a paste in mild cases, by spreading upon the skin and covering with absorbent cotton and a light bandage.

To Relieve Toothache.

The *Med. Standard* contains the following for relief of toothache when a physician is called upon to relieve the pain and the services of a dentist can not be secured:

℞.	Orthoformi	gr. xv	1	
	Acidi carbol	gr. xv	1	
	Camphoræ	gr. xl	2	66
	Chloralis hydratis	gr. xl	2	66

M. Sig.: Dry the cavity and apply on absorbent cotton; or:

℞.	Cocainæ hyd.	gr. iss		09
	Menthol	gr. xv	1	
	Acidi carbol.	gr. xv	1	
	Olei caryophylli	gtt. v		33
	Alcoholis (camphorated)	ʒii	8	

M. Sig.: Apply locally on cotton.

The *Med. Bulletin* recommends the following as an internal remedy for toothache:

℞.	Quininæ sulph.	gr. ii		12
	Acidi hydrobrom.	gtt. xv	1	
	Tinct. gelsemii	gtt. xv	1	
	Syrupi	ʒiv	16	
	Aq. destil.	℥i	32	

M. Sig.: To be taken at one dose.

[The dilute hydrobromic acid should be used in the above prescription, which is only 10 per cent. strength of the pure hydrobromic acid; the latter should never be used internally.]

Treatment of Thrush Complicating Dentition.

The following combination has been used with good results in treatment of thrush in infants:

℞.	Tinct. moschi (musk)	gtt iv		25
	Aq. calcis			
	Aq. lactucarii, āā	ʒii	8	
	Syr. simplicis	℥i	32	

M. Sig.: Two teaspoonfuls every three hours.

Medicolegal.

As to Liability of Married Women for Doctors' Bills.—The Supreme Court of Wisconsin says, in the case of Stack vs. Padden, that while the statutes of that state have partially removed the common-law disability of married women to bind themselves at law by contract, that extends only so far as necessary or convenient to the beneficial enjoyment of their separate property or the carrying on of their separate business or in relation to their personal services. They can not at law bind themselves and their separate property to pay doctors' bills. But, perhaps with some significance, the court says that it was not dealing in this case with the proposition of whether a married woman possessed of considerable property might bind her separate property in equity by a contract for medical services rendered in treating her and her son.

May Order Private Examination by Selected Physicians.—The Supreme Court of Kansas holds, in the case of the City of Ottawa vs. Gilliland, that in an action to recover damages for personal injuries, the trial court has the power to require the injured party to submit the unexposed portion of his person to a private examination by physicians or surgeons appointed by the court, when, in the exercise of a sound judgment, it appears to the court that the necessity of the case demands such an examination. In actions for personal injuries the exact location and extent of the injury is frequently, it says, the very question in dispute—the fact to be ascertained. While the court, in the exercise of its discretion, should protect the feelings and sensibilities of all litigants, the rights of the parties and the ascertainment of the truth is the chief object of a trial. The purpose of a trial is to mete out exact justice. This can not be accomplished when the truth is suppressed, and this may be done if the court has not the power to ascertain what the truth is. In an action for personal injuries the injured party may call physicians to whom he may expose his person, not for the purpose of affecting a cure, but for the purpose of using this expert evidence to assist him in the trial of his case. He may also expose the injured portion of his person to the jury, observing the rules of decency. Should the litigant be permitted to withhold the truth or the means of ascertaining what the truth is, simply because, in the ascertainment of the truth he may conceive the idea that an indignity is being offered? That is not an indignity which is not intended. May he be permitted to present so much of the truth as he desires, and as he thinks to his interest, and withhold the remainder? This would certainly be his privilege if the court does not possess the power to make an order that will develop the exact truth. But an examination will not be ordered needlessly, or, where an improper shock to modesty or feelings of delicacy would be likely. What is decided is only that the court has the power, and in each case it is to be exercised or not according to the sound discretion of the presiding judge. In other words, the Supreme Court thinks it safer in the administration of justice to trust to the courts to protect the sensibilities of the parties in such examinations, so far as it is possible to do so, and beyond that to hold them subordinate in importance and sacredness to the interest of justice, than to hold that a party to a litigation has it within his power to develop so much of the facts as may appear to be to his interest, and then stop the investigation. It also thinks that the great weight of authority favors this view.

School Trustees Must Enforce Board of Health Orders.—The Supreme Court of Indiana takes a different view in the mandamus case of State ex rel. Horne vs. Beil and others from that of the lower court. These proceedings were instituted to compel the school trustees of a city to enforce a rule or order adopted by the county and city boards of health requiring all children to be vaccinated before being permitted to attend any of the schools of the county or city respectively. Upon just what ground the lower court held the complaint in the case insufficient is left to conjecture. Apparently, however, the contention in that court of the school trustees was that the complaint was insufficient, 1, for failure to set out in hace verba or its exact wording the rule adopted by the board of health, and 2, that the rule, as adopted, was ineffectual for failure to set forth the facts constituting the emergency therefor. But the Supreme Court holds that there was no merit in either of these objections. The rule was not the foundation of the action. The rule, when properly adopted and promulgated, as was fully shown by the complaint, had the force and effect of law, and persons called upon to obey it had no right to demand postponement until the wisdom and reasons for the rule were first disclosed to them. Local boards of health are created and authorized by the legislature, and duty bound to adopt and enforce rules and regulations for the arrest and prevention of contagious and infectious diseases in their respective jurisdictions, whenever the necessity therefor arises. The question of necessity must, from the very nature of the object to be attained, rest within the discretion and judgment of the board of health which seeks to adopt and enforce the rule. It is the duty of the board to determine when there has been an exposure to a contagious disease, what constitutes an exposure, when the health of the citizens under its jurisdiction is threatened by an epidemic, and when the preservation of the health of the people demands that the board take action to prevent the spread of such infectious disease. And when the board has acted it will be presumed that sufficient facts existed to warrant its action, until the contrary appears. Furthermore, the court holds that the school trustees, as officers charged with the public duty of

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Treatment of Gastric Fermentation.

H. L. Esner, of Syracuse, N. Y., in *Internat. Med. Mag.*, recommends the following, stating his preference for the bismuth salts in combination with benzonaphthol:

℞.	Bismuthi subnit.	gr. v		30
	Bismuthi salicylat.	gr. v		30
	Pulv. ipecac.	gr. 1/6		01
	Benzonaphthol	gr. v		30

M. Ft. chart. No. i. Sig.: One such powder after meals.

With the above he gives small doses of belladonna and strychnia, or nux vomica:

℞.	Tinct. belladonnæ	m. lxxv	5	
	Tinct. capsici	gr. xx	1	30
	Tinct. gent. comp.	℥i	32	
	Aq. puræ, q. s. ad.	℥iv	128	

M. Sig.: One teaspoonful before each meal.

As to diet, he recommends the withdrawal of starches, sweets and cereals. Equal parts of milk with lime water in small quantities given at intervals of two hours if stomach is irritable. Later a mixed diet, including beef once daily, also eggs, milk, coffee and fruit for breakfast. Where fermentation is excessive, belching of gas annoying, constipation depressing, with pressure symptoms, he advises the following:

℞.	Strychninæ sulph.	gr. i		06
	Ext. belladonnæ flu.	m. x		60
	Aq. laurocerosi	℥iss	48	
	Tinct. gelsemii	ʒiii	12	
	Aq. puræ q. s. ad	℥iv	128	

M. Sig.: One teaspoonful before each meal.

Treatment of Ulcer of Stomach.

To relieve the pain, vomiting and acid eructations in gastric ulcer the following is recommended by Ewald:

℞.	Magnesiæ ust.			
	Sodii carb.			
	Potassii carb., āā	gr. lxxv	5	
	Pulv. rhei	ʒiiss	10	
	Sacch. lactis	ʒvii	28	

M. Sig.: As much as will rest upon the point of knife, dry on the tongue every hour.

Billings recommends the following to counteract the acidity:

℞.	*Mist. rhei et sodæ*	℥vi	24	

Sig.: Two to three teaspoonfuls after each meal.

Treatment of Simple Goiter in Adults.

Murray, in *Edin. Med. Jour.*, states that by administering thyroid extract in cases of simple parenchymatous form of goiter the prognosis is most favorable. When the extraordinary demand for thyroidal secretion is thus supplied, the hypertrophied gland is able to pass into resting state and thus undergoes partial atrophy, with consequent diminution in size. He compares this condition with the enlargement of the mammary gland during lactation, which as soon as the child is weaned and the demand for its secretion ceases, returns to a resting condition and decreases in size.

Treatment of Typhoid Fever in Children.

The following outline of treatment in typhoid fever is recommended by Legroux, as noted in *N. Y. Med. Jour.*: 1. Administer a purgative dose of mild chlorid of mercury, 5 to 10 grains in divided doses, as soon as the diagnosis can be made. 2. Administer naphthol according to the following indication:

℞.	Beta naphthol	gr. xxx	2	

M. Ft. chart., No. x. Sig.: One powder every hour. To be given in the diarrhea of lesser intensity.

℞.	Beta-naphthol	gr. xxx	2	
	Bismuthi salicylatis	gr. xxx	2	

M. Ft. chart. No. x. Sig.: One powder every two hours when the diarrhea is abundant.

And when constipation is present the following:

℞.	Beta-naphthol	gr. xxx	2	
	Magnesii salicylatis	gr. xxx	2	

M. Ft. chart. No. x. Sig.: One powder every two hours.

To Prevent Recurring Attacks of Hay Fever.

Wright, in *Charlotte Med Jour.*, recommends the employment of frictional massage in this trouble. He states that by this means the mucous membrane of the nose is hardened and thereby lessens its hypersensitiveness, and increases its power of resistance. This can be accomplished by using a piece of surgical cotton on an applicator. Friction must be made over as much of the mucous membrane as possible and applied twice a day. In this way the membranes become accustomed to the contact with foreign substances and will be enabled to withstand the irritation from any exciting agent. He states that there are no less than 20 square inches of mucous membrane in the nasal passages and consequently emphasizes the importance of rendering this area resistant. He states that the results show this method to be a positive preventive.

Treatment of Hemorrhoids.

℞.	Chloretoni	gr. xlviii	3	10
	Adipis benzoatis, q. s. ad	℥i	32	

M. Sig.: Apply locally; or:

℞.	Chloretoni	gr. xlviii	3	10
	Olei olivæ	ʒiiss	10	
	Lanolini q. s. ad	ʒi	32	

M. Sig.: Apply locally night and morning after first cleansing the parts well; or:

℞.	Chloretoni	gr. xxiv	1	60
	Lanolini	ʒiiiss	14	
	Olei olivæ	ʒiii	12	
	Liq. ext. hamamelidis	℥i	32	

M. Sig.: Apply Locally. —*Lyon.*

Eczema.

For the treatment of the ordinary eczemas of children the following is recommended by Leistikow as the best ointment:

℞.	Hydrarg. oxidi flavi	gr. iv-viii		25-5
	Adipis-lanæ			
	Zinci oxidi			
	Amyli, āā	gr. lxxv	5	
	Vaselini	ʒiiss	10	

M. Ft. unguentum. Sig.: Apply locally once daily.

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M. Sig.: Dry the cavity and apply on absorbent cotton; or:

℞.	Cocainæ hyd.	gr. iss		09
	Menthol	gr. xv	1	
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Changes About Allowing for Mental Suffering Alone.—The Supreme Court of Indiana in Western Union Telegraph Company vs. Ferguson overrules the Reese case wherein it adopted, in 1890, the doctrine, first announced in Texas, that the negligent causing of mental anguish alone is an actionable wrong. Among the reasons which it gives for changing its attitude on this subject are that, though courts should and do extend the application of the rules of the common law to the new conditions of advancing civilization, they may not rightfully create a new principle unknown to the common law, nor abrogate a known one, and that the mental-anguish doctrine is not a native sprout, but a foreign graft. Then, it says, there is no open or practicable means by which the damages occasioned by a negligent act that causes only mental anguish can be assessed. The parties to a lawsuit should have an even chance. The damage for which the plaintiff seeks compensation should be shown by evidence that the defendant may test, impeach, refute. When the plaintiff asks to recover for physical injuries, open or hidden, the court may require him, as a condition of prosecuting his case, to submit his person to an examination by medical experts, who may be called as witnesses by the defendant. The determination of the nature and extent of the physical hurt is not dependent upon the eloquence of the plaintiff as a witness, but upon the eloquence of the facts established by the evidence on both sides, which may not have included the verbal testimony of the plaintiff at all. Now, the mental anguish for which damages are allowable is incident to and dependent upon the nature and extent of the physical injury. And, although there can be no absolute standard for measuring mental anguish in terms of money, nor for measuring physical injuries, yet it is apparent that the differences between the physical injuries in two cases, established by evidence open to both sides, furnish a means of testing in some degree the existence and extent of the mental anguish of the respective plaintiffs outside of their mere assertions. But the mental-anguish doctrine awards damages for a state of mind that is not at all dependent upon or measurable by a cause of action existing outside the mental contemplation of the plaintiff, and provable by evidence open to both parties. Again, to be a law of equal justice and no discrimination, the mental-anguish doctrine should assert, as a broad general principle, that damages are recoverable, for mental distress alone, from every person whose negligent act causes that condition, whereas the rule is not the rule against any one except telegraph companies, and not against them uniformly. The difficulties of navigation without chart or compass, the court continues, are understandable without experiment, but the experiences of the courts that uphold the mental-anguish doctrine probably outrun any mere a priori conjecture as to possibilities. So, to apply its own phrase, it does not propose any longer to tempt the seas of uncertainty, in this direction, but to travel the ancient highway.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, August 1.

1 *The Fight Against Tuberculosis in the Light of the Experience Gained in the Successful Combat of Other Infectious Diseases. Robert Koch.
2 *Scientific Research: The Indispensable Basis of All Medical and Material Progress. (To be concluded.) George B. Ferguson.
3 *Practical Blood Examination. Henry F. Hewes.
4 Rachitic Deformities of the Spine. J. S. Stone.
5 *Measurements of Girls in Private Schools and of University Students. Arthur MacDonald.

Medical Record (N. Y.), August 3.

6 *Hemolysis. S. J. Meltzer.
7 *The Principles of Diagnosis of Lesions of the Spinal Cord. John Punton.
8 Cerebral Abscess: Operation, Recovery. Fletcher Gardner.
9 *Limitations of Surgical Work for the Insane. William J. Mayo.
10 *The Primary Treatment of Infected Wounds with Tincture of Iodin. Carl Beck.

Philadelphia Medical Journal, August 3.

11 Human and Bovine Tuberculosis. Leonard Pearson.
12 *The Importance of a More General Study of Disease of the Nervous System. Wharton Sinkler.
13 *The Mosquito an Insignificant Factor in the Propagation of Yellow Fever. John H. Purnell.
14 Typhoid Fever with Perforation of the Colon and Gall-Bladder: Operation: Death; Autopsy. Herman B. Allyn.
15 A Post-typhoid Case in Which During Four Months the Following Operations Were Performed. Andrew J. Downes.
16 Typhoid Fever Occurring in a Tuberculous Patient, and the Influence of Tuberculin on this Condition. Erwin Fischer.

American Medicine (Philadelphia), August 3.

17 *Important Sequels Resulting from Delayed Operation in Appendicitis. A. Stewart Lobingier.
18 *Two Cases of Vicious Circle After Gastroenterostomy. (To be concluded.) Theodore A. McGraw.
19 *The Subarachnoid Injection of Cocain for Operations on all Parts of the Body. A. W. Morton.
20 Twenty Years' Experience as Surgeon to Cambria Iron Company. W. B. Lowman.
21 Report of a Case of Hystero-epilepsy, in Which the Climax of the Seizure Was Expressed by Discharge of Blood Through the Intact External Auditory Canal. K. K. Wheelock.
22 *Some New Therapeutic Applications of Europhen. W. E. Thomas.
23 *Scientific Research: The Indispensable Basis of all Medical and Material Progress. George B. Ferguson.

New York Medical Journal, August 3.

24 *"Inoperable" Recurrent Cancer of the Breast; Relief by Beatson's Method. Robert Abbe.
25 *Cancer, Particularly Cutaneous Cancer. Ellice M. Alger.
26 *A Year's Experience in the Treatment of the Eustachian Tube by Means of the Electro-Bougie. Thomas J. Harris.
27 *Native Medical Practice in the Philippines, with Introductory Observations. Philip F. Harvey.
28*Flagellated Malarial Parasite: Observations upon Its Structure, Showing that the Flagella are Performed in the Body of the Organism. John T. Moore.
29 Speculum of Bone, from Shot Fracture of Skull, Which Rested Against the Brain for Forty-four Years. D. S. Lamb.

Cincinnati Lancet-Clinic, August 3.

30 *Some Clinical Uses of Digitalis. Robert Ingram.
31 Clinical Reports on the Use of Digitalis. Frank Scheerer.

Medical News (N. Y.), August 3.

32 *Injuries of the Head in the New-born. Andrew F. Currier.
33 *The State of the Gastric Secretions in Chronic Rheumatism and Rheumatoid Arthritis. Frank H. Murdoch.
34 *The Administration of Ethyl Chlorid as a General Anesthetic, with Description of a Mask for Its Use. Martin W. Ware.
35 *The Therapeutic Uses of Tri-chlor-tertiary-butyl-alcohol. E. M. Houghton.
36 Belladonna vs. Scopolia. Reynold Webb Wilcox.
37 *Ulcer of the Duodenum Considered from a Surgical Standpoint. D. S. Fairchild.

St. Louis Medical Review, August 3.

38 *The Treatment of Gastro-enteric Infection in Infants. John Zahorsky.

Pediatrics (N. Y.), July 15.

39 Tuberculosis of Bone. J. Garland Sherrill.
40 *Growing Pains; What Are They? Their Treatment. J. A. Hale.
41 Multiple Sclerosis in a Child 5 Years Old. Philip F. Barbour.

Medical Fortnightly (St. Louis), July.

42 Diseases of the Stomach. (Continued.) J. M. G. Carter.
43 Saturnine Nephritis. Dr. Lancereaux.
44 "Ergoapical" (Smith): Its Therapeutic Indications with Clinical Notes. C. W. Canan.

American Practitioner and News (Louisville, Ky.), June 1.

45 *The Necessity for Medical Organization. J. N. McCormack.
46 Report of Clinical Cases. M. F. Coomes.
47 *The Sterilization of Suture Material. August Schachner.
48 *Sterility in Women. Lewis S. McMurtry.

Medical Age (Detroit, Mich.), July 25.

49 Foreign Bodies in the Urethra and Bladder. H. E. W. Barnes.
50 Dementia Praecox. Gershom H. Hill.
51 Report of Surgical Cases (Appendicitis, Tubo-ovarian Abscess, Etc.) Wm. H. Wathen.

Pennsylvania Medical Journal (Pittsburg), July.

52 Tubercular Peritonitis in Women. F. F. Simpson.
53 Anatomy of Hanging. Edmund W. Holmes.
54 Diagnosis and Treatment of Incipient Pulmonary Tuberculosis. W. T. English.
55 *How Should the Practice of Medicine be Legally Defined? Henry Beates, Jr.
56 An Address on Hydrophobia. A. Leteve.
57 Smallpox—Its Differential Diagnosis from Other Diseases. J. J. Coffman.
58 Chloretone as an Hypnotic and Local Anesthetic. E. M. Houghton.

The Clinical Review (Chicago), August.

59 Hepatic Cirrhosis; Congenital Idiocy; Sporadic Cretinism. Isaac A. Abt.
60 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

Archives of Otology (N. Y.), June.

61 A Case of Cerebellar Abscess; Operation; Recovery. W. G. Richards.
62 *Functional Significance of the Round Window. A. Frutiger.
63 *Carcinoma of the Ear. Leopold Treitel.
64 *Adenoid Operation on the Pendant Head Under General Anesthesia. P. Rudloff.
65 *Tympanic Vertigo Due to Obstruction Within the Eustachian Tube. Wm. P. Brandegee.
66 A Correlation of One Hundred Successive Mastoid Operations. Edwin W. Pyle.
67 Empyema of the Right Maxillary, Ethmoidal, and Sphenoidal Sinuses with Sudden Blindness of the Left Eye. Operation; Recovery of Sight. T. H. Halsted.
68 A Case of Tuberculosis of the Ear, with Autopsy. Henry L. Swain.

Woman's Medical Journal (Toledo, Ohio), June.

69 Health Fads of To-day. Grace P. Murray
70 A Case of Sporadic Cretinism. Emma Warner Demaree.

American Journal of the Medical Sciences (Philadelphia), August.

71 *Anesthetics in Heart Disease. John M. T. Finney.
72 *Cardiac Accidents After Anesthetization. Alfred Stengel.
73 *Pre-existing Heart Disease in Reference to Surgical Operations. William J. Mayo.
74 *The Safest Anesthetic to Use in Organic Diseases of the Heart and Vessels. H. A. Hare.
75 *Some Conditions Other than Aortic Aneurysm Which Determine the Occurrence of the Tracheal Tug. Henry Sewall.
76 *Primary Sarcoma of the Thyroid Gland. August J. Lartigau.
77 Splenic-Myelogenous Leukemia, with Pulmonary, Laryngeal and Faucial Tuberculosis. Arnold Sturmdorf.
78 A Case of Cervical and Bulbar Tabes, with Necropsy. Solomon Solis-Cohen and Wm. G. Spiller.
79 Some Observations on Typhoid Fever Complicated by Croupous Pneumonia, with Reports of Four Fatal Cases. Henry M. Fisher.

Medical and Surgical Monitor (Indianapolis, Ind.), July 15.

80 On Professional Practice and Morals in Relation to Life Insurance Work. W. M. Vinnedge.
81 Case Reports—An Operation for Closure of the Defect in Double Hare-lip, with Absence of the Inter-maxillary Bone. Duehrssen's Operation in Eclampsia Gravidarum. J. Rilus Eastman.
82 Fibroid Tumors of the Uterus. Frank C. Ferguson.
83 The Evolution of Surgery. Joseph Eastman.

Archives of Ophthalmology (New Rochelle, N. Y.), July.

84 A Case of Favus of the Upper Lid. Arthur Gloor.
85 *Experimental Investigations on the Pathogenesis of Choked Disc. A Merz.
86 A Choroidal Sarcoma Producing Rupture of the Cornea in an Unusual Manner. Frederick Herman Verhoeff and Fred Maurice Spalding.
87 Report of a Case of Pulsating Exophthalmos. E. Oliver Belt.
88 *The Sterilization and Care of Instruments. Walter B. Lancaster.
89 *On Optic Nerve Atrophy Associated with Cranial Deformity. Harry Friedenwald.
90 Clinical Contributions. Herpes Zoster Ophthalmicus Resulting in Loss of the Eye. Double Suppurative Irido-choroiditis in Association with Purpura Hemorrhagica. Robert L. Randolph.
91 On the Injection of Sterile Salt Solution into Collapsed Eyeballs. Report of Two Cases. Elmer G. Starr.

Vermont Medical Monthly (Burlington), July 25.

92 The Influence of the Bacillus in Pulmonary Tuberculosis. Hubbard W Mitchell.

Interstate Medical Journal (St. Louis), July.

93 An Experimental Study of Antiperistalsis. Richard Muehsam.
94 *Oral Indications of Physical Conditions. Carl Theodor Gramm.
95 Clinical Observations Regarding the Action of Quinin Eosolate in Malaria. A. G. Cippiani.
96 Hydragogin in Dropsy. E. Tutschulte.

Iowa Medical Journal (Des Moines), July 15.

97 Infection Through Food. W. B. LaFrance.
98 Mastoid Disease, Double, Following Middle Ear Disease, Resulting from an Acute Infectious Disease; Operation; Complete Recovery; General Considerations. C. A. Boice.

New York State Journal of Medicine (N. Y.), August.

99 *Cocainism. T. D. Crothers.
100 *The Diagnosis of Leukemia from the Standpoint of the Blood Changes. C. Y. White.
101 *The Treatment of Pulmonary Tuberculosis, with an Additional Note on Climate. C. G. Campbell.
102 *The Present Status of Jonnesco's Operation. Marcell Hartwig.
103 *The Technique of Bloodless Work. Robert H. M. Dawbarn.
104 *The Pathology, Diagnosis, Special Prophylaxis and Treatment of Tuberculosis of the Middle Ear. Seymour Oppenheimer.
105 *Ophthalmia Neonatorum: Its Pathology, Prophylaxis and Treatment. John E. Weeks.

International Journal of Surgery (N. Y.), August.

106 Nose and Throat Work for the General Practitioner. (Continued.) G. L. Richards.
107 Some Surgical Emergencies. W. D. Williamson.
108 *Surgical Introspection. H. W. Chapman.
109 Remarks on Appendicitis with Especial Reference to the Technique of the Operation. J. J. McAdam.
110 *Some Views on Curettement of the Uterus from the Standpoint of a General Practitioner. E. D. Gardner.
111 Regional Minor Surgery. (Continued.) George G. Van Schaick.
112 Post-nasal Tumor of Enormous Size—Its Removal with the Galvano-cautery Snare. F. C. Drenning.
113 Recollections of the First Operation Performed Under Anesthesia. G. M. Angell.

The Laryngoscope (St. Louis), July.

114 *The Nose and Throat in the History of Medicine. Jonathan Wright.
115 *Serous Diseases of the Maxillary Antrum with a Report of Two Cases. W. E. Casselberry.
116 *Tonsillotomy Rash. Wyatt Wingrave.
117 Report of a Case of Malignant Disease of the Tonsil. Hal Foster.
118 A Case of Stenosis of the Larynx Following Fractures; Operation, Recovery. Arthur W. Watson.
119 *Early Treatment of Mastoiditis. Charles W. Richardson.
120 *The Production of Local Anesthesia in the Ear. Homer Dupuy.
121 Clinical Notes on Adrenalin. Norton L. Wilson.
122 A New Cutting Forceps for Operating in the Post-nasal Space. William F. Clevenger.

Southern Illinois Journal of Medicine and Surgery (Metropolis), July.

123 Some Therapeutic Indications for Salol. C. E. Tucker.
124 Our Successes and Our Failures. R. H. Jacobs.
125 Holocain Hydrochlorid. David T. Kyner.

Pacific Medical Journal (San Francisco), July.

126 When Fortune Smiles. Antrim Edgar Osborne.
127 *Prevention and Cure of Consumption. Louis Barkan.
128 Some General Observations as to the Origin of Tuberculosis. E. H. Smith.
129 Diphtheria and Its Treatment. G. W. Mallery.
130 *Circumcision. George I. Bluhm.
131 Varieties of Cholesteatoma. J. Holinger.

Southern Medical Journal (La Grange, N. C.), July.

132 The Conservative Treatment of the Uterus. John Thames.
133 Therapeutics of Small Doses. James H. Gray.

Southern California Practitioner (Los Angeles), July.

134 *Sub-conjunctival Salt Injections in Diseases of the Inner Eye. Adolf Kraemer.
135 *Pneumonia. D. B. Van Slyke.
136 Infant Feeding. George Deacon.
137 Steps in the Prevention of the Spread of Tuberculosis. F. M. Pottenger.

Therapeutic Gazette (Detroit, Mich.), July 15.

138 The Action of Antitoxin. Joseph McFarland.
139 The Treatment of Diphtheria Other than with Antitoxin. J. P. Crozer Griffith.
140 The Present Aspect of the Antitoxin Treatment of Diphtheria. J. Dutton Steele.
141 A Case of Tea-intoxication with Spinal Symptoms. Alfred Gordon.
142 *Hepatic Inadequacy and Its Relation to Irregular Gout with Special Reference to Treatment. I. Burney Yeo.

Texas Medical Journal (Austin), July.

143 On Axis-traction Forceps. William Keiller.

American Journal of Surgery and Gynecology (St. Louis), July.

144 A New Method of Performing Hysterectomy. Byron Robinson.
145 *The Present Status of the Bottini Operation in the Treatment of Prostatic Hypertrophy. Leonard Freeman.
146 Severe Hemorrhage and Sepsis Following Nasal Operation in a "Bleeder." William Cheatham.
147 Vaginal Drainage in Non-operative Cases. C. M. Fulton.
148 Maggots in the Nose. L. Brannon.
149 *Myomectomy of Nine Myomas During Pregnancy and Delivery at Term. John Duncan Emmet.
150 Wandering Kidney. (Concluded.) Emory Lanphear.
151 A Case of Abdominal Aneurysm Treated by Abdominal Section and Introduction of Wire. F. W. Parham.
152 Neurasthenia: Its Relation to Diseases of Women, and Its Treatment. L. H. Schwerin.

Toledo Medical and Surgical Reporter, August.

153 Practical Remarks on Diseases of the Ear. F. J. Dietz.
154 How to Find the Fissures of the Brain, Make Trap-door Operations, Etc. Allen DeVilbiss.

Charlotte Medical Journal, July.

155 Rheumatism. W. P. Whitington.
156 Acromegalia. T. L. Cornwell.
157 The "Knox Improved Monk's" Needle Holder. A. W. Knox.
158 Some Considerations on Specific Urethritis—Its Complications and Treatment in the Male. F. B. Cullens.
159 Ethical Side of the Medical Profession. D. W. Sherrod.

AMERICAN.

1.—See The Journal of July 27, p. 259.

3.—Ibid., p. 327.

3. **Blood Examination.**—The scope of practical blood examination for the determination of anemia; its severity and type; the existence of leucocytosis and its extent, including the diagnosis of the conditions of myelogenic and lymphatic leukemia, with determination of the presence or absence of blood parasites; the diagnosis of malaria, filariasis and relapsing fever; the determination of the existence of serum reactions such as the Widal test and the presence in the blood also of bacterial organisms, that is, of septicemia, are first stated briefly by Hewes. Next, the various methods of employing the test for these conditions are critically described. The paper will be found useful for reference.

5. **Measurements of Girls.**—The results obtained by MacDonald in measurements of girls seem to prove that children of the non-laboring class are superior in physique and have a greater acuteness of sensibility. Girls in private schools are less sensitive to locality on the skin and more sensitive to pain before than after puberty. Among the average women he finds the blondes inferior in all measurements and less sensitive to pain. The first-born in both men and women are more sensitive to pain than the second, and the second less sensitive than the later born. Investigation of larger numbers are, however, necessary. The dolichocephalic in both sexes are less sensitive to pain than the brachycephalic. University women are more sensitive than university men. It seems that in the female sex there is greater acuteness of sensibility than in the male.

6. **Hemolysis.**—Meltzer's article is largely a review of the literature and he also adds his own experiments. He has tested the agglutinating and hemolytic power of normal bullock serum and the effect of its stay in the peritoneal cavity. His chief conclusions are stated as follows: Normal and immunizing serums lose their hemolytic power during a prolonged stay in the peritoneal cavity. The loss is due to the disappearance of the toxic component, the complement of Ehrlich, or the alexin of Bordet and Buchner. The disappearance means absorption, and the disappearance of the complement in much greater proportion than the balance of the fluid means elective absorption. However, as this elective absorption takes place in the cadaver, it can not be a vital phenomenon, and he thinks more probably it has its explanation in some laws of osmosis or inhibition.

7. **Spinal Lesions.**—The diagnosis of spinal lesions is discussed by Punton, who summarizes the various steps in the diagnosis as follows: 1. Determine whether the symptoms are due to spinal lesions by reference to your knowledge of function of its several parts, thus excluding those symptoms due to cerebral or peripheral lesions. 2. Next determine whether the symptoms are due to organic or functional disease, or are caused by malingering. This usually can be done by careful methodical examination of all parts involved, together with a study of the mode of onset of the symptoms, their duration, nature and character and all the other facts connected with the family, personal, and clinical history of the case. 3. Next determine the exact location of the lesion, whether extra-medullary, intra-medullary, systemic or non-systemic. This requires ability to interpret the nature and character of symptoms produced in conjunction with other causes, and the known liability of certain structures to such lesions. 4. When all these questions are correctly answered, we are then prepared to make our diagnoses and base on them the prognosis and treatment.

9. **Surgery in the Insane.**—Mayo gives his experience with surgical work in the St. Peter and Rochester hospitals, of Minnesota. He classes the indications into three general groups: 1. Those in which surgery relieves the physical ailment without reference to mental conditions. 2. Operations for the purpose of relieving mental symptoms. 3. Operations for the public welfare. As regards the first he thinks there is no question as to their value, and mentions a number of conditions in which he has found utility in operation; thus, hernia, which, owing to their habits, patients are often unable to have relieved by ordinary mechanical methods, has been treated by operation. Also within the last four years considerable has been done for the relief of prostatic hypertrophy, gall-stones, cataracts, etc. In the second group, surgery has but a limited sphere. In epileptics there is but little prospect of good after two years of disease, and few epileptics are admitted to hospitals for the insane who have not suffered from the disease longer than this. Nevertheless, amelioration has been produced in two cases and he thinks that in some cases it may not be only warranted, but advisable. The greatest claims have been made for gynecologic work. The insane woman should be relieved, not because of her mental condition, but on general principles, but there is little reason for hoping for more than the betterment of insanity. He has seen few, if any, cures brought about in this way, but much relief in suitable cases. Operations for the public welfare are of questionable propriety, and would not likely be sanctioned at the present time. Mayo, however, endorses Brower and Ochsner's suggestion of unsexing male patients by vasectomy, which is a safe, and may be made a painless operation. An analogous operation in women would be more dangerous and not permissible. Out of a total of 60 females and 40 males operated on for all causes, 16 per cent. of the women and 12 per cent. of the men were mentally improved about as we would expect from the physical relief afforded. As regards their physical condition nearly all were improved. Only one cure from insanity was reported. In conclusion, he says that the insane have from the surgical standpoint the same rights as the sane, no more, no less.

10. **Tincture of Iodin in Infected Wounds.**—After first noticing the experiments and studies of Schimmelbusch and others as regards the treatment of infected wounds, Beck gives his experience with the use of tincture of iodin, which he thinks possesses a permeating power to a certain extent antiseptic. The tincture was applied once over the carefully dried wound surface. Fifteen minutes afterward examination of the tissues showed evidence of permeation, and no cultures could be obtained from such areas. No general disturbance was observed, though in two cases iodin reaction was found in the urine three or four hours after the application. All the cases took a favorable course.

12. **Nervous Diseases.**—The address of Sinkler calls attention to the importance of greater familiarity of the physician with some of the leading nervous disorders, and to the advances that have been made in their diagnosis and treatment. He thinks a special course in neurology should be given and a chair of clinical neurology established in every medical school.

13. **Yellow Fever.**—The view of Reed, Carroll, and others as to the part the mosquito plays in the production of yellow

fever is combated by Purnell, who adduces numerous cases which he thinks tend to show the possibility of infection by other means, fomites, etc. He admits that his views will be criticized as not being exact enough, but his conviction is that the mosquito has been and will continue to be only a limited factor in the spread of yellow fever.

17. **Appendicitis.**—The danger of delaying operations for appendicitis is emphasized by Lobingier, who cites a number of cases where intestinal obstruction, peritonitis, septic embolism, gangrene, venous thrombosis, metastatic abscess, etc., followed delay in operation. He thinks the evidence on record appeals for early diagnosis and treatment, as opposed to procrastination and delay.

18. **Gastro-Enterostomy.**—The "vicious circle" here mentioned consists in the contents of the stomach passing in the afferent limb of the jejunum, that is to the duodenum instead of following their proper course through the efferent portion of the jejunum into the ilium, causing regurgitation into the stomach, distention, pain, hiccoughing and death by exhaustion. He practiced gastro-enterostomy over ten years without meeting a case of this kind, when two in quick succession aroused him to appreciate the danger.

19. **Spinal Cocainization.**—Morton has operated on a large number of cases by spinal cocainization and has collected reports of cases from other physicians. He thinks there can be little doubt as to the advantage of the method in cases where general anesthesia is contra-indicated on account of cardiac or renal disease. Since reporting the above cases he has made 61 more operations by this method, 15 of which were operations on the upper extremities or head with complete analgesia.

22. **Europhen.**—Thomas has employed europhen, which is produced by the action of iodin on isobutylorthocresol in a solution of potassium iodid. He finds it an antiseptic preparation which depends not alone on the freeing of nascent iodin, but also on the liberation of its cresol. He uses it in the dressing of wounds and internally in many cases where iodin is indicated, such as in syphilis, and as an intestinal antiseptic in typhoid fever, where he has found it efficient. He not only uses it where potassium iodid is not well borne, but also as an alternative with it in these cases. He had tried it also in tuberculosis with good results. From his experience he assumes that we have in this drug an iodin compound fully as efficacious as iodin in surgery and internally the most reliable and satisfactory means of giving iodin.

23.—See THE JOURNAL of August 3, p. 327.

24.—See editorial in THE JOURNAL of August 10, p. 390.

25. **Cutaneous Cancer.**—While internal cancer rarely originates from benign growths, this is very commonly found to be the case in cutaneous cancer, as is shown by the frequency of labial epithelioma. Alger calls attention to this fact. He does not seem to favor the parasitic theory and rather holds that it may be a special derangement of the reproductive activity of the higher cells. All cancers have certain clinical features in common; there is a hardness beyond that of the surrounding tissue and a tendency to ulceration, characterized by hard, waxy, distinct margins with dilated blood vessels. Error in diagnosis, which is often difficult, may be due to sarcoma, which is rare, develops more rapidly, has secondary deposits earlier, affects younger persons as a rule, and has a comparatively slight tendency to ulceration. Tuberculosis, besides its earlier occurrence, has none of the indurations of cancer. Syphilis, which causes the most errors, develops much faster; while indurated it has none of the characteristic hardness of epithelioma and ulcerates much sooner; has a more profuse discharge and a tendency to heal on one side while advancing on the other. In many cases of cutaneous cancer the disease might hardly be considered malignant were it not for the possibility of metastasis. Dissemination is governed by two factors: 1. Proximity of lymphatics and vessels. 2. Looseness of structure on the part of the cancer, leading to easy detachment of the fragments. Fortunately in cutaneous cancer dissemination is comparatively rare, at least in the superficial varieties. As regards treatment, Alger advises against any operation that is not thorough and cancers in old persons and superficial epithelioma are much less in need of active interference, because they are commonly indolent. Growths in the vicinity of the active lymphatics should be removed at once. Great care should be taken as regards instrumental interference. The danger from dissemination by instruments renders the use of infiltration anesthesia dangerous. Where lymphatic involvement has not yet taken place and is not to be considered, caustics and especially arsenic are suggested. In well-marked cancer where dissemination has taken place, amputation will often prove to be a conservative measure. The inoperable cases must be treated palliatively, according to their individual needs.

26. **The Electro-Bougie in the Eustachian Tube.**—The use of this instrument is discussed by Harris, who gives his results and feels he is warranted in offering the following conclusions: 1. The electro-bougie has a place in our aural therapy, though a less important one than was at first supposed. 2. It should be used after, and not before, other methods of treatment. 3. It will be most liable to fail if any associated internal ear disease is present. 4. Its results are not always permanent—the stricture may re-form—we may hope rather for a diminution than a disappearance of the tinnitus. Two cases totally relieved out of 25. Two cases partially relieved. 5. Its use is not without danger, and a proper knowledge of the anatomy of the parts and of the technique is essential. 6. It is a question whether the process is a true electrolytic one, or if in many instances the obstruction is a true fibrous stricture.

27. **Native Medical Practice in the Philippines.**—Harvey's article is an interesting one on the medical practice of the natives of the Philippines, especially the Mindanaoan Moros, but it is too full of details to be abstracted.

28. **Flagellated Malarial Parasite.**—Moore from his study of the plasmodium in the human blood, believes that he has observed the flagella or microgametes detach themselves from the hyaline bodies. He has never yet been able to follow them to the granular or female body, though he has several times seen them detached. He believes that they are formed within the hyaline bodies and find their way outside.

30. **Digitalis.**—Ingram finds digitalis among the most valuable drugs for certain cardiac irregularities not due to indigestion, which is aggravated by the use of this drug. The functional difficulties met with in neurotic subjects may be, but are not always benefited, and overstrain from exertion without demonstrable lesion is often much relieved. The dilatation of the right heart accompanied by cardiac disease may be, but is usually not much improved by the drug. Mitral insufficiency is one of the diseases in which it is most useful, but the more it varies from the edematous type, the less good will digitalis do. Cases where there is much pain and depression and but little regurgitation are not so often benefited, though many are improved. Sometimes vomiting caused by digitalis prohibits its use. In mitral stenosis it is of great advantage to prolong the diastole and in this way digitalis helps; both stenosis and insufficiency of the tricuspid valves may be benefited in the same way as in the mitral valve, but in most cases it does less good in diseases of the right side of the heart. Aortic insufficiency is a condition in which digitalis is often harmful. It should be given only when the heart is very rapid or there is evidence that there is not much regurgitation or where there are other reasons, such as coincident presence of aortic obstruction, for wishing to strengthen and regulate the contraction. The dose should be small and the effects carefully watched. Sometimes in aortic stenosis it may be advisable to increase the force of the beat, but most cases do not require drugs, for the cardiac hypertrophy itself is sufficient.

32. **Cranial Injuries in the New-Born.**—The possibility of accident and secondary results from injury of the cranium during birth are reviewed by Currier, who holds that in every case where the labor has been severe and protracted, the

cranium should be carefully examined to detect a possible fissure, fracture or depression of the bone. Treatment should be instituted as soon as possible after birth. It should be much the same as would be the treatment at later periods of life, a similar regard being paid to details.

33. **Gastric Secretion in Rheumatism.**—Little has been written regarding the subject of gastric secretion in chronic rheumatism and rheumatoid arthritis, and Murdoch gives the results of examinations in 6 cases—5 of chronic rheumatism and 1 of rheumatoid arthritis. In these cases he tested for this secretion with the Günzburg and Töpfer methods in each case and found varying conditions. He thinks that the diet should be prescribed in view of the condition of the joint, but in each case as required to suit the existing state of the gastric secretions.

34. **Ethyl Chlorid.**—After alluding to an earlier article published in the *Medical Record* advocating the use of the drug, Ware gives his opinion as to the value of ethyl chlorid as an anesthetic. He finds it less expensive, more convenient, and less formidable in its effects than nitrous oxid. The agent, however, is of service only in minor operations and as a preliminary to cut short the agonies of the earlier stages of chloroform and ether anesthesia. The intelligent application of ethyl chlorid will demonstrate it a useful and valuable agent in minor surgery in the hands of the general practitioner, largely supplanting laughing gas.

35. **Tri-Chlor-Tertiary-Butyl-Alcohol.**—The use of this drug which was proposed by Aldrich and Houghton in The Journal in 1899, is again discussed by the latter. Its antiseptic and hypnotic effects are both noted. From what has been learned, he believes he is warranted in drawing the conclusion that owing to its moderate antiseptic, local anesthetic and hypnotic properties, its apparent harmlessness to animal tissue when brought into direct contact with it or when absorbed and distributed to various parts of the body by the circulation, it bids fair to have a wide field of usefulness. One of the most important points to be determined is its dosage, which needs yet to be worked out. A case is referred to by him where he has found it of benefit when employed as a local anesthetic. As a surgical dressing in the field, it is being tested by army surgeons. It has been given and recommended by various individuals, Donald, West, Baumeister, and others, and he has had reports from physicians who employ the drug in insane asylums. It would seem that it can not be employed with entire safety in motor exhaustion of general paresis, though other types of mental defect appear generally to be benefited.

37.—See abstract in The Journal, xxxvi, p. 1493.

38. **Gastro-Enteric Infection in Infants.**—The treatment of this condition varies somewhat according to the nature of the poison and idiosyncrasy of the individual and is stated briefly by Zahorsky as follows: "1. Take infant from a milk diet. 2. Administer a purgative. 3. Give some cereal decoction for one to three days. 4. Prescribe a mild antiseptic mixture which will do no harm to the patient. 5. Treat the dangerous symptoms. 6. Gradually restore a normal diet, by adding small quantities of meat broth, whey, or human milk to the cereal mixture. 7. Cow's milk should then be given in very small quantities added to the cereal decoction. 8. The amount of food should be apportioned to the power of the digestive apparatus. 9. The majority of cases get well rapidly, the persistent cases require careful dieting and nursing rather than medication."

40. **Growing Pains.**—Growing pains of children are considered by Hale as evidences of rheumatism under different conditions from its existence in adult life and attended with complications secondary to the disease. Salicylic acid can not be unreservedly employed in children, as its toxic effects are more marked with them, and he reports cases where he has used aspirin in its stead with good results.

45.—See abstract in The Journal, xxxvi, p. 1727.

47.—Ibid., p. 1726.

48. **Sterility in Women.**—McMurtry finds that sterility may result from disease involving any portion of the genital organs, from the pelvic peritoneum to the vulva; the most potent cause originating in changes following inflammation. Hence for the most part the prevention and treatment of sterility is synonymous with the treatment and the prevention of pelvic inflammation. He calls special attention to the evils of the practice of frequent vaginal douching in healthy women.

55. See The Journal, June 15, p. 1728.

62. **Functional Significance of the Round Window.**—The summary of Frutiger's paper is given as follows: "1. Whenever the oval window is greatly altered pathologically, and the lower-tone limit much reduced, hearing for bass tones can be improved by using tampons to the round window membrane. This membrane, therefore, seems also to conduct sound from the tympanum to the labyrinth; under normal conditions, however, only such higher tones, perhaps from the small octave (inclusive) upwards. 2. The round window membrane serves, normally, but chiefly in conjunction with the two aqueducts, to regulate the variations in tension of the labyrinthine fluids, namely: 1. In case of wave movements produced in the labyrinthine fluids by tones passing through the chain of ossicles. 2. In sudden shock produced against the chain of bones by direct or indirect force."

63. **Carcinoma of the Ear.**—The infrequency of aural carcinoma is offered as a justification of the report of the cases here given, and their discussion. Treitel considers that suppuration in the auditory canal leads to susceptibility to epithelioma just as the lips become susceptible in pipe smokers, and eczema also favors the condition. The predilection of malignant growths for parts where the skin and mucous membrane meet would further strengthen the belief that the lower end of the ear is specially vulnerable. The chance of benign tumors becoming malignant is supported by the occurrence of aural cancer, but the obscurity of the pathology of the condition is very great at present. He calls attention to the limits of the tumors by the dura in these cases. The early paralysis of the recurrent laryngeal nerve was probably due to enlarged glands. The condition of the blood vessels and almost complete obliteration of the sigmoid sinus and the abrupt termination of the carotid at the base of the skull must have developed very slowly, as there was no congestion to indicate rapid obstruction. The prognosis depends upon the early recognition of the condition and early radical operation.

64. **Adenoid Operation.**—Rudloff has followed Rose's suggestion in adenoid operation of having the head pendent to prevent blood flowing into the pharynx. He calls attention to an accident which occurred in one case, viz., wounding of the carotid artery. When the adenoma arises in the Rosenmüller's fossa injury to the lateral walls may result in wounding of the carotid, hence the importance of special care in the manipulation of instruments in this position.

65. **Tympanic Vertigo.**—For the relief of tympanic vertigo, due to Eustachian obstruction, Brandegee finds nothing so satisfactory as electrolysis—the introduction of the electric bougie into the tube. Its advantages as given by him are: 1. Ease in manipulation. 2. Minimum amount of pain to the patient. 3. Minimum amount of trauma to parts involved. 4. Thorough destruction of the stricture or occlusion. 5. The force necessary is only sufficient to insure good contact for the current. 6. The parts of the apparatus which come in contact with the tube can be readily rendered sterile. When the mouth of the tube is well anesthetized with cocain, which is easy generally, the operator can then slowly and almost painlessly pass through any stenosis. It should be understood, however, that, in this, electrolysis, not cauterization, is desired. To produce this effect only a mild current with comparatively low voltage should be used. Experience has shown that it is not well to use the electric bougie too frequently. No excessive force should be employed and inflation by catheterization should not be attempted for at least forty-eight hours after treatment on the account of the slight reaction and for fear of emphysema. It is often quite necessary to bougie several times before we have a perfectly simple and patent tube, and finally it is essential

that the catheter and bougie should be sterilized by boiling. After the patency of the tube has been established, air and vapor massage by the catheter is indicated, while attention should be given to the adjacent cavities, local surgical procedures being adopted when necessary. Six cases are reported of relief of obstructive tympanic vertigo from the Eustachian tube.

71. **Anesthetics in Heart Disease.**—After reviewing the possibility of accidents occurring during or after anesthesia from chloroform, ether, etc., Finney finds that as regards ether, the contraindications are rather respiratory than cardiac, while chloroform is more dangerous in all cases of weak heart. From a study of 142 cases, he thinks that in myocardial conditions only do anesthetics exert any markedly bad effects. In valvular disease their influence is very slight, though appreciable, and in functional diseases insignificant. He emphasizes the importance of the part taken by the anesthetizer, which is in some cases more important than that of the operator himself, and the need of a thoroughly competent corps of anesthetists in our hospitals.

72. **Cardiac Accidents After Anesthetization.**—Stengel offers tentatively the following conclusions: In all cases of cardiac disturbance after operation it is difficult to determine whether the result is due to the anesthetic or to the operation. In many cases of recognized cardiac disease ether has a temporary beneficial effect on the cardiac condition, but it is probable that its secondary effect may be unfavorable, the symptoms occurring after a lapse of several days. It is important to recognize that certain results following operations, such as basal pneumonia, gastro-duodenal disturbances, and especially embolism, are, in reality, the results of the weakened state of the heart, and may, therefore, owe their development to anesthetization or the shock of the operation. The bad effects of anesthetization, he believes, are due to disturbances of the nervous mechanism or the essential muscular automaticity, rather than to organic changes in the myocardium, endocardium or pericardium.

73. **Heart Disease and Surgery.**—Mayo finds that, between the ages of 10 and 40 valvular diseases are generally well compensated, and if the heart's action is easy and circulation well carried out, the operative risk is not great. If there is failing compensation and signs of marked dilatation, only operations of great urgency would be undertaken without preparatory treatment. After 40, valvular lesions are usually associated with some degree of myocardial change, a condition which the surgeon has to fear.

74. **Safest Anesthetics in Heart Disease.**—Hare finds ether the safest, if properly administered, excepting in vascular disease where in grave conditions it is generally contraindicated and also in atheromatous disease, and in the high arterial tension due to vascular changes. He does not think it strongly contraindicated in Bright's disease, if the anesthetist is impressed with the fact that the kidneys are affected and necessary precautions are used. The use of chloroform in the presence of myocardial change is very dangerous, and nitrous oxid is strongly contraindicated in vascular degeneration. Intraspinal injection, he thinks, will soon be regarded as a medical curiosity, as it has not the wide scope of usefulness with which it was heralded, and will be shortly neglected. The anesthesia is often blamed unjustly. He believes that more people die straining at stool or going up stairs when suffering from heart disease than from the effects of anesthesia.

75. **The Tracheal Tug.**—Sewall has investigated the subject of the tracheal tug as a sign of aortic aneurysm, and thinks it an untrustworthy indication. In the majority of cases it is associated with, and dependent on, adhesions of the left pleura. The diminished extensibility of the lungs tends to produce heart phenomena, and the tug is most pronounced when the conditions are combined. He also finds that in the normal individual the descent of the heart with inspiration movement of the diaphragm may so press the aortic arch upon the left bronchus as to impart to the trachea the aortic pulse, recognizable at the larynx, as a palpable tug of greater or less distinctness.

76. **Sarcoma of the Thyroid.**—Lartigau finds that primary sarcoma of the thyroid is rare, but probably more common than is shown by statistics. It is less frequent than primary carcinoma of the gland. It is most commonly associated with goiter, developing in persons between 40 and 60 years of age, which show a higher percentage of previous goiter than younger individuals. Goiter associated with sarcoma of the thyroid is more common in women than in men. Sarcoma of the thyroid occurs oftener in late than in early life, with greatest frequency between the ages of 40 and 60. Sex is probably unimportant. The primary tumor generally originates in the right lobe, though this seems to be more frequent in men than in women. The clinical course is usually very acute and involvement by pressure of the entire growth on trachea or larynx is common. Metastasis occurs through the blood or lymphatic channels or both. Round and spindle or mixed-cell sarcomas are most common. Angiosarcomata are not rare.

85. **Choked Disc.**—From his studies and experiments, Merz draws the following conclusions: 1. Increased intracranial tension alone is sufficient to produce choked disc, and it is only necessary that this tension should be maintained uninterruptedly for some time. Transient increased tension even when often repeated leads only to venous hyperemia and arterial anemia of the fundus. 2. In order to produce choked disc the tension needs to be increased but slightly, 8 to 15 mm. of mercury or less. 3. The eye of the dog and of the rabbit react differently to intracranial tension, while in the former the choked disc is rapidly produced it can rarely, in the latter, be brought about at all, on account of the deep physiologic cup and the relation of the vessels to the optic nerve. This, Merz holds, possibly accounts for the diverse results of different experimenters. 4. The first clinical sign of increased intracranial tension seems to be the change in retinal circulation, dilatation of the veins and contraction of the arteries. 5. The nearer to the eye the vessels perforate the sheath of the nerve, the earlier the changes in retinal circulation appear. 6. In the production of experimental choked disc several succeeding factors are probably important: First, the increased tension leads to compression of the venous sinuses of the brain, disturbing the venous circulation in the eye. Then is added the stasis of liquid in the subvaginal space and the compression of the vessels in their course from their passage through the nerve sheath to the papilla. Finally, the nerve itself is compressed by disturbed circulation in its own lymphatics, with the latter begins the edema of the nerve fibers, which in turn increases the compression of the vessels. Such disturbances in the blood and lymphatic circulation when continued for a certain time lead to inflammatory manifestations in the nerve, its sheaths and papilla. 7. In view of the similarity in anatomical construction between the eye of the dog and that of man, the results of his experiments can with considerable reason be supposed to hold good in man also.

88. **Sterilization and Care of Instruments.**—Lancaster finds from his experiments and tests that boiling in alkaline solution, if properly done, does not rust instruments, but that soaking with any solution of boracic acid, salt or even alcohol does hurt them, and, so far as he can judge, is entirely unnecessary. As regards the preservation of instruments, he believes that putting them away dry and clean is more important than the kind of case, and that the velvet case for the most delicate knives is less objectionable than one of metal or wood. Coating with oil, which is very easily removed by boiling soda, is a sure preventive of rust. Droppers should be supplied for every patient and not used more than once without sterilizing. Syringes and electric instruments, both cauteries and magnets, should be tested weekly.

89. **Optic Nerve Atrophy.**—Friedenwald reports cases associated with cranial deformities and reviews other cases which he has been able to find in the literature. He thinks that while the number of cases is small, the constancy of symptoms found associated with variously deformed skulls and especially with the steeple-shaped skulls is due to early neuritis followed by atrophy. He holds the opinion that optic neuritis in this case depends upon increased intracranial

pressure caused by premature synostosis and is therefore similar to that associated with tumors of the brain.

94. **The Mouth as an Index to Disease.**—Gramm calls attention to the symptoms afforded by the mouth as indicating the physical condition of the patient, and especially to three morbid conditions: 1. That form of chronic congestion of the free margins of the gingival followed by parallel white lines of decalcification of decaying teeth, which he thinks is a sign of underlying intestinal indigestion and especially of acid dyscrasia. 2. Persistent caries of the teeth, which he has often seen as a solitary witness to altered metabolism. It may occur in pregnancy; he has often seen it in young girls between the ages of 12 and 15, and it calls for general prophylactic treatment. Lastly, he refers to the neuro-atrophic condition called Rigg's disease, which usually calls for a general physical examination. Such examinations have led to the discovery of unsuspected cases of incipient diabetes. All nutritive diseases are prone to betray themselves in the irritation of the dental periosteum.

99.—See abstract in The Journal, xxxv, p. 1104.

100.—Ibid., p. 1105.

101.—Ibid., p. 1171.

102.—Ibid.

103.—This article appeared in The Journal, xxxvi, p. 357.

104.—See abstract in The Journal, xxxv, p. 1172.

105.—Ibid., p. 1104.

108.—This article has appeared elsewhere. See The Journal, xxxvi, title 72, p. 1586.

110.—Ibid., title 74, p. 1206.

114. **The Nose and Throat in Medicine.**—Wright's article, as stated editorially, is the beginning of a series of papers which will be published in succeeding numbers. This first installment is full of interest and shows a wide range of reading.

115. **Serous Disease of the Antrum.**—Casselberry calls attention to the less noticed condition of serous or muco-serous accumulation in the antrum and reports cases. It may be one of the sequelæ of chronic catarrhal sinusitis, and he reviews the literature to some extent. One of his cases was acute sinusitis with retained muco-serous secretion. The other was of chronic serous disease. The diagnosis of these cases can only be based upon aspiration, the transillumination test is indecisive. In both his cases the light transmission was impaired, not forming a distinct shadow. This, together with nasal polypus, degeneration of the middle turbinated body, ill-defined browache, or sense of fulness in the cheek should suggest an exploratory incision. To distinguish a free serous collection from a cyst may be quite impossible, without wide opening, and even then it has been found impossible. Treatment consists in relieving the obstruction to the ostium maxillare and by resection of the enlarged middle turbinate bodies. Removal of the polypi, if cystic, or if recovery does not follow suitable nasal treatment, an opening in the anterior wall of the sinus sufficiently large for palpation would seem to promise good results and forestall the appearance of empyema.

116. **Tonsillotomy Rash.**—Wingrave has found in seven years twenty-six cases of rash following tonsillotomy, usually of the roseolar and erythematous types, affecting the neck, chest and abdomen and sometimes extending to the face and limbs. The earliest appearance was on the day after the operation, the latest on the sixth day; duration from two to five days. It disappears without desquamation, but is sometimes attended with severe itching and may occur at any age. Examination of the blood during the week following the operation of tonsillotomy gives in most cases evidence of increase of mononuclear red corpuscles. He remarks that this leucocytosis, which rarely lasts beyond the tenth day, is hardly surprising after so great a disturbance of lymphoid structures. The removal of tonsils and adenoids affords a very large area for absorption of toxic matter, and the rash should be interpreted either as a toxic result or one of drug intolerance, since most of the patients were taking sodium salicylate and bromid of potash.

119. **Mastoiditis.**—The first and most important indication in the early treatment of mastoiditis, according to Richardson, is an early and free incision of the tympanic membrane, and he thinks too little importance is given to this matter. The second is care of the purulent discharge, and he advises frequent and gentle irrigation with sterile water, but the less meddlesome we are during the first forty-eight hours the better. The fourth important indication is the prevention of infection of the mastoid or arrest when it has occurred. For this he advises the continuous and persistent use of ice in all recent cases when infection of the antrum or cells has taken place. Where there is profuse purulent discharge and sinking of the posterior superior wall of the auditory canal with edema over the mastoid, the condition calls for operative interference at once.

120. **Aural Anesthesia.**—Dupuy gives his experience with the combination of cocain, absolute alcohol and anilin oil in the proportion of 50 parts of the two latter to 5 or 10 parts or more of the first, recommended by Albert Gray, of England, for the production of aural anesthesia. He thinks this solution has a remarkably penetrating power, but the fifty cases reported by him do not bear out the inference that there is an excessive danger of drug poisoning in its use. He calls attention to several points in the method of applying the solution: 1. The instillation of hydrogen dioxid in the meatus is very useful in softening and dislodging the loose epithelial tissue on an inflamed drumhead and affording a better chance for penetration. The second and all-essential point is to fill the external meatus with the solution. To make sure before incision that anesthesia is complete, he thinks it good practice to touch the drumhead at the selected point with the tip of the knife. The most satisfactory preparation in his experience is 20 parts of cocain in the mixture, for producing the anesthesia.

127. **Tuberculosis.**—Barkan recommends the use of permanganate of potassium and salicylic acid in the treatment of phthisis, and reports several cases where this combination appears to be of special value. He considers salicylic acid far superior to quinin in tuberculosis, as not interfering with digestion when given at the proper time and in proper quantity.

130. **Circumcision.**—Bluhm considers circumcision unnecessary from the hygienic, and useless from the preventive standpoint. Physiologically it is the removal of a functionally useful part and mutilation of an organ. From the pathological standpoint it is unjustified; from the humanitarian point of view, it is cruel and ought to be prohibited by law.

134. **Sub-Conjunctival Salt Injections.**—This method, introduced into medical practice about seven years ago by Wellinger, is, according to Kraemer, absolutely safe and only slightly painful if one confines himself to the 2 per cent. solution. The injection should be made as far distant as possible from the cornea in the upper equatorial region. "It is sufficient to perform it by means of a needle of the syringe laid flat on the conjunctiva bulbi and shoved forward so as to make a slight fold with the point and then carefully thrust in, two or three inches [? ? ?] between the sclera and conjunctiva; then the salt solution is slowly injected under the conjunctiva." He has found that in opacity of the vitreous humor, or choroiditic diseases of the fundus resulting from myopia of a higher degree, the injections lead to speedy and good results. Also in cases of beginning detachment of the retina, in combination with confinement to bed, and in cases of retinitis pigmentosa it is of temporary value. He regards the method as an enrichment of the ophthalmic remedies and can recommend it for the above mentioned diseases of the eye.

135. **Pneumonia.**—The measures mentioned as beneficial in pneumonia by Van Slyke are first blood-letting, which he thinks is of decided value in certain cases; the disuse of all depressing agents, blisters, etc., expectorants; the judicious

use of alcohol and hydrotherapy, strychnin, digitalis and opium under proper hygienic precautions. He would begin treatment with a few small doses of calomel followed by a saline. Pain and temperature call for hydrotherapy, and the use of dry cold to the affected parts. As soon as the heart shows signs of weakening, he gives whiskey and strychnin in small doses, gradually increased, and substitutes digitalis for strychnia when there is delirium and cerebral congestion. He gives plenty of water with a liquid and nourishing diet.

142.—See abstract in The Journal of July 6, p. 70.

145. **Bottini's Operation.**—Freeman claims for this procedure a number of advantages: Great improvement in the vast majority of cases, low mortality, slight suffering on the part of the patient, rapidity of operation and less resistance and fear in the subject operated upon. Most failures occur in old cases with advanced pathologic changes and complications.

149.—This article has appeared elsewhere. See The Journal of July 13, paragraph 78, p. 146.

FOREIGN.

British Medical Journal, July 27.

Introductory Address Mainly on the Classification of Cases. I. Burney Yeo, M.D., F.R.C.P.—The author said the objects of treatment by climate in cases of pulmonary tuberculosis seemed to be the following: 1. To arrest catarrhal conditions of the air passages. 2. To improve nervous and circulatory tone. 3. To increase the activity of the digestive functions, and thus stimulate nutrition by promoting the desire and increasing the power to take exercise. 4. To raise the normal tone—by no means an unimportant matter—by affording a clear, bright, and cheerful environment. 5. To diminish by its asepticity bacterial activity. It is a question for consideration whether so-called "open-air treatment, without regard to suitable climatic conditions, will do all this. It should be our object when practicable to place the consumptive patient under conditions and in circumstances where, without risk or injury, he may obtain the most complete and perfect aeration of the lungs possible. If you place a feeble catarrhal patient in the open air in a damp and cold climate, you will risk an increase of the catarrh, and this will diminish pulmonary aeration by blocking up the air-passages. The modern open-air treatment is only "new" in its manner of carrying out this idea of hyperaeration of the diseased lungs, and we must be especially careful in applying it to avoid the risk of aggravating catarrhal conditions. This, I think, has now been fully admitted by some of the most strenuous advocates of open-air treatment *per se*. The recommendation of a long sea voyage as a cure for phthisis doubtless had its origin in the idea of pulmonary hyper-aeration. It was an early form of "open-air" treatment, but with grave drawbacks and risks. It may be interesting to mention that between two and three centuries ago Sydenham seems to have had in his mind also this same idea of hyperaeration of the lungs in the treatment of consumption. * * * Now climatic treatment is essentially open-air treatment; and the appropriate selection of a climate must depend on the suitability of that climate to open air life in the particular cases we may have to deal with.

"It is difficult to establish any precise and rigid classification of the cases best suited to particular places, because in many cases, with a limited idea of local disease, the patients will do well and obtain arrest of the disease in a variety of places with somewhat different climatic conditions. * * * Many chronic stationary cases with fair general health travel about to different winter resorts in successive seasons and appear to benefit more or less in all. Another difficulty in drawing reliable conclusions from statistics is the tendency on the part of certain observers to use somewhat vaguely the terms "incipient phthisis" and "pretuberculous phthisis." I find many practitioners are in the habit of using the term "incipient phthisis" in the sense of "suspected phthisis; in that case it expresses an opinion rather than a fact. If this practice is largely acted upon it must greatly detract from the value of the statistics obtained. It would be better, I venture to suggest, to discard the use of the term "incipient phthisis" and use the more precise term, "early phthisis," instead; and then in the preparation of statistics it should be stated on what observed symptoms and physical signs this diagnosis is founded. The term "pretuberculous" phthisis is, I think, still more objectionable. In estimating the results of any form of treatment these terms, I would suggest should not be used. We are, I suppose, all agreed that early cases with a very limited area of local disease, with little or no fever, with integrity of the digestive functions, and in young and otherwise healthy adults do well and are frequently cured in a variety of climates provided they live a perfectly hygienic, open-air life. They recover probably more speedily in altitude climates than elsewhere.

"*Advanced Chronic Cases.*—The idea that formerly prevailed that a warm, moist and equable climate, was the best for consumptives had a certain foundation in the suitability of such climates to the advanced catarrhal cases. There was little idea of cure associated with these climates, because consumption was then regarded as incurable, but it was thought that they prolonged life, and made the slow process of dying less painful. The quality of equability in a climate was at one time greatly overrated. Indeed, we nowadays avoid an equable climate when seeking a cure for early cases of pulmonary tuberculosis. We rather seek a climate with a very wide diurnal range of temperature, if it is a dry climate, as the Engadine or Egypt. While diurnal variations of temperature exert a bracing, invigorating, tonic effect, especially when they follow a certain regularity. What renders our own climate so very trying at times is that, although very variable, the variations of temperature follow no regularity. We get a week or ten days of very cold, dry weather, and then, just as the organism is adapting itself to the dry external cold, it changes, and we get a spell of moist, southwesterly winds, to be followed after a few days, by a return of the severely cold, dry weather; and so on. It is on this account that our climate can never be well suited to the out-of-door treatment of cases of catarrhal phthisis.

"*Early and Moderately Advanced Phthisis.*—There is no great difficulty, then, in deciding what to do with cases at the very onset; we must be greatly influenced by questions of age, sex, temperament, occupation, social conditions, and constitutional tendency. They will get well in a variety of places with careful management. Nor is there much room for hesitation as to what course is best to follow in decidedly advanced cases. The progressive febrile cases are best in bed with an abundant supply of fresh air. It is the moderately advanced case that calls for careful discrimination, and is the most difficult to decide about. It is now that the question of constitutional tendency comes into the foreground. Tuberculosis being an infective disease attended with greater or less dissemination of toxic substances throughout the organism, we find, as we do with the attacks of other infective microbes, varying degrees of reaction, of susceptibility, or infectibility, in different types of constitution.

"*Cases Unsuitable for Mountain Climates.*—It has been thought that the gouty constitution is antagonistic to tuberculous infection. My impression is that the rheumatic constitution is so also, and that the latter is especially prone to develop the slow, fibroid, pleurogenic form of phthisis. Now this form is not, in my opinion, well suited to altitude climates. These cases do best in dry and warm climate, such as the more protected resorts of the Riviera and the desert climate, as in Upper Egypt or Biskra. Setting aside this group, the high mountain resorts have doubtless the widest range of applicability to moderately advanced cases. There are, however, certain other cases that do not improve in these resorts. Early or moderately advanced cases, with manifest cachexia, gastric disturbance, and more or less fever, do not do well in these or, as far as I am aware, in other resorts. A mild marine climate perhaps suits these cachetic cases best. Cases with laryngeal or intestinal complications should not be sent to the mountains. Cases of much emphysema complicating tuberculous infiltration, or tubercle invading emphysematous lungs will perhaps express better what I mean, are unsuited to altitude resorts. Cases of this latter group are prone to attacks of almost continuous and peculiarly uncontrollable hemorrhage, and are most unpromising. As might be expected, cases with renal complications do not do well in the mountains, and if albuminuria makes its appearance in such resorts the patient should be removed to a warmer climate. A peculiar sensitiveness to cold is a very decided drawback to wintering in the mountains; for, although the patient may be mending so far as the local disease is concerned, he or she is always depressed and unhappy. What the consumptive patient most needs for his cure is the combination of climate and sanatorium treatment. The patient, if left to his own devices, may make bad use of a good climate, while with skilful guidance in a sanatorium he may make good use of a bad one. Care without climate is better than climate without care.

"*Influence of Climate on Consumption.*—The question put to us in this discussion is: What influence has climate on the treatment of consumption, and how far can cases be grouped for treatment in certain climates? The answer to the first part of the question will be: 1. That a suitable climate relieves or removes catarrhal conditions accompanying that disease in a number of cases. 2. It raises nervous and vascular tone. 3. It increases muscular energy and the ability as well as the desire for exercise. 4. By rendering an open-air life possible, it increases the aeration of the lungs and diminishes the activity of bacterial agencies, one of the most essential conditions of arrest and cure of the disease. 5. It improves the tone and promotes the activity of the digestive functions, and so enables the patient to take the large amount of food which is needed to heighten his state of nutrition. 6. It improves the moral and mental state by surrounding the patient with a bright, cheerful and hopeful environment.

"*Grouping of Cases.*—Then, as to the answer of the second part of the question, we may say: 1. That cases seen at the very commencement of the disease, and who are otherwise in good health, may be permitted a certain amount of choice in the selection of a climate, provided it allows of many hours being spent daily in the open air, and that they are placed under admittedly hygienic conditions. A choice may be made from climates of altitude, the desert climate, the inland plateaux of South Africa, the sea voyage for those with a decided liking for the sea, and suitably placed sanatoria. 2. For progressive febrile cases, repose in a bed or on a couch at home, in the best conditions practicable for the access of air and sunshine to their apartments. 3. For advanced cases home is best if the conditions of home life are favorable, or the warm marine climates with cheerful surroundings if home life is unfavorable or change is urgently desired. 4. For catarrhal cases, warm soothing climates like Madeira or Teneriffe are best. 5. For rheumatic or gouty cases of the fibroid or pleurogenic type—dry, marine climates or the desert climate are suitable. 6. For the so-called "scrofulous cases," if free from catarrh, fairly bracing marine climates; if with catarrh, mild marine climates should be prescribed. 7. For most other moderately advanced cases, with the limitations already mentioned, the climate of the high mountains, above the cloud belt, is the most curative. I have not made a "hemorrhagic" group because I do not think it would be a natural one; every hemorrhagic case must be, in my opinion, considered apart, and dealt with on its own merits.'"

Measures Adopted by Different Nations for the Prevention of Consumption. Professor P. Brouardel, dean of the Faculty of Medicine of Paris.—The Right Honorable Henry Chaplin, M.P., president of the local government board, who presided, introduced him as the most distinguished authority on sanitary science in Europe. Professor Brouardel said that the mortality from tuberculosis varied in different countries. In some it was accountable for a sixth, in others a fifth, and in others a fourth of the total mortality. Long before the infectiousness of tuberculosis was discovered the struggle against it was commenced in England. The English, convinced by observation that tuberculosis thrived in damp dwellings, in 1836 passed a law providing for the construction of healthy houses. Since then more than ten acts of parliament to render salubrious the dwellings of the poor had been passed, and the mortality from tuberculosis had been reduced 40 per cent. The anti-tuberculous education of public opinion which was now progressing, was of great importance. In 1889, under the presidency of the Prince of Wales the National Association for the Prevention of Tuberculosis was formed. Its object was further prevention by educating the masses. Germany had founded societies for the construction of sanatoria, and then societies for the propagation of the idea, to popularize sanitary ideas. These societies are small and scattered in different localities, forming provincial groups. They, too, publish popular pamphlets. In Belgium there is a National League against tuberculosis, with its seat in Brussels; each province has an independent branch. In Norway, the Storthing voted 40,000 crowns for the purpose of printing and distributing a popular work on tuberculosis, by Dr. Klaus Haussen, and 2000 crowns to form a traveling fund for physicians wishing to gain information about the management of sanatoria. In France the Society for the Prevention of Tuberculosis by Popular Education had collected those who could teach with authority, such men as Lavisse, Matignon, Victorien Sardou, Landouzy, etc. They addressed meetings, and explained the rules of prophylaxis. Professor Brouardel, as president of the Polytechnic Association, had performed the same service in Paris. This year 38 lectures had been given to 12,000 pupils. Thus, gradually, in all countries, the public were beginning to realize that personal care and cleanliness were necessary, and that a consumptive was only dangerous when necessary precautions were neglected, that the danger lay in the sputum. England had the great merit of recognizing the evils of insalubrious dwellings, and passing laws ordering their destruction; and further of enacting laws for the erection of sanitary dwellings which had been supplemented by the beneficence of private individuals. In 1850 a law was passed in France dealing with unhealthy dwellings, and another in 1894. In the crowded parts of towns tuberculous foci were created which were a source of danger to the inhabitants. In Paris the mortality from tuberculosis varied in different districts from 10 to 100 per 10,000 inhabitants. Alcoholism he regarded as a most potent factor in propagating tuberculosis. It rendered the strongest man powerless to resist the disease. Hence the high mortality from tuberculosis in classes addicted to drink. Tatham's figures showed that taking the mean mortality from tuberculosis at 100, that of bartenders was 257; of brewers, 148; saloon-keepers, 140. The idea that tuberculosis could be cured dated back to Hippocrates, who said: "Phthisis, if treated early enough, gets well." In 1838 Carswell, one of England's most distinguished physicians, wrote: "Pathological anatomy has never, perhaps, given a more decided proof of the cure of disease than of phthisis." Laennec, Nat, Guillot, and Letulle had proved that in more than half the necropsies performed old healed tubercular lesions were found. Professor Brouardel had found at the morgue in Paris, where he frequently made necropsies in cases of accidental death, that in half the cases if the person had lived in Paris for ten years healed tubercular lesions, cretaceous or fibrous, were present. That treatment might be of service in the early stage, M. Calmette conceived the idea that instead of waiting for the workman to come, the doctor should seek him. He opened an anti-tuberculous dispensary at Lille, which had been eminently successful. Another had been established in Paris. The best way to ferret out the disease was to have an "agent-workman" who would notice when his comrades began to cough, and advise them to go to the dispensary; who, alive to the dangers of a badly kept workshop, would superintend its cleansing. Professor Brouardel said that in Germany there were 83 sanatoria open, or ready to be opened. Of those who left the sanatoria in a satisfactory condition it had been shown that in 1896 46 per cent. were able to work; in 1897, 47 per cent., in 1898, 58 per cent., and in 1899, 60 per cent. In France several sanatoria had been opened, and others were in process of erection. Since Chauveau showed that it was possible for tuberculous germs in food to produce tubercles in the intestinal tract, attention has been turned to precautions for preventing the consumption of meats and milk from tuberculous animals. Professor Brouardel concluded with an eloquent peroration, saying that by a united effort the whole of the civilized world might succeed in exterminating the cruelest scourge that had ever fallen on it.

The Lancet, July 27.

The Administration of the Manchester Milk Clauses, 1899. James Niven.—The working of the law in regard to the inspection of milk and the control of its sale in the city of Manchester is detailed by Niven, who calls attention to some special points. He thinks that in some ways the law has been practically inoperative; thus, the notification of a suspected condition of the udder by farmers has been neglected; the penalty is inadequate. He does not think the observance of the milk clause is adequate to the entire results expected. The points which he insists upon are: 1. That cows shown to suffer from tuberculosis of the udder should be compelled by law to be slaughtered in the presence of the veterinary surgeon employed under the milk clauses. 2. That all restrictions on the inspection of herds supplying the district with milk should be removed. 3. That a heavy penalty should be attached to failure to notify suspicious conditions of the udder.

Sterilization and Pasteurization vs. Tubercle-Free Herds, Etc. E. W. Hope.—The comparative dependence upon sterilization or pasteurization and the insurance of absolute absence of tubercle in herds supplying milk are discussed by Hope, who thinks that while raw milk is specially liable to contamination, sterilization, valuable as it is, is after all only an expedient, and must not be put in such prominence that the importance of the other safeguards of absolute cleanliness of source and handling are neglected. Beyond any question, he says, the ultimate advantage lies in obtaining the milk from herds free from tuberculosis. A comparison is made with having water from a contaminated source and making it pure later by chemical processes or boiling and obtaining it in the first place from an uncontaminated source. He thinks it is quite possible to insure that the milk-supply shall come from cows free from tuberculosis.

Natural Immunity from Tuberculosis in Natal, South Africa. James F. Allen.—The topography and climate of Natal, especially the upland region in which Pietermaritzburg is situated, are described by Allen, who claims that tuberculosis is there almost unknown, though it does exist to a very limited extent; cattle are absolutely free from it in that region, that is, the locally-bred cattle running wild on the veldt, and the human species is almost equally immune. There are no signs of the disease increasing as a local product. The conditions do not tend to produce it on account of the almost open-air mode of living. The man in the street is more in evidence there than anywhere else that he knows of, and the climate is so mild that sleeping in the open air at night without risk is perfectly possible at all seasons. The two races alien to the region, the European and East Indian, both thrive and physically improve in this particular section. The importation of consumptives, however, he thinks, should be regulated so that patients are not sent in a hopeless and destitute condition to become public charges. If this is not attended to he believes that the government will follow the example of New Zealand and refuse entry to persons suffering from tuberculosis.

Examination of Carcasses in Cases of Cattle Tuberculosis. William Brown.—Various symptoms of tuberculosis as found in the postmortems of cattle are described in detail. He has found at least eight cases of tuberculosis of the brain; in two of the animals an oblique carriage of the head was observed during life; in another vertigo, and in a fourth, paralysis. Ocular tuberculosis was not uncommon. This usually begins somewhere in the uveal tract, gradually pushing forward into the anterior cavity. He has never been able to find the bacilli in this situation. The pharyngeal glands are specially liable to be affected. He has been in the habit for years of condemning the herd in every case where contamination of the carcasses was determined upon. The tonsils are, in his opinion, well defined bodies in the ox and are sometimes tuberculous. Tubercular cervical glands of any prominence are generally removed by the butcher, so one sees comparatively few in which it existed. Tuberculosis of the epicardium and pericardium, though not of the cardiac muscles, and several cases of laryngeal tuberculosis in animals have been observed. The lungs and pleura, of course, are the most frequent seats of the disease, but it is found also in other viscera. It is not unusual to find it in the peritoneal covering, and sometimes in the substance of the organ. The liver is occasionally enormously enlarged. Tuberculosis of the peritoneum of the spleen is extremely common, but involvement of its substance is rarely or never seen. This, he thinks, may be due to the functional activity of the organ. The kidneys in adult animals are rarely tuberculous. The peritoneum may be affected and tuberculosis of the uterine muscle and its peritoneal covering is common, and occasionally there is a tubercular endometritis. The ovaries and Fallopian tubes are frequently tubercular, and tuberculosis of the bladder presents much the same character as that of the uterus. Tuberculosis of the udder shows itself in small yellowish deposits with or without calcification, nevertheless containing tubercular products, or there may be diffuse deposits of infiltration, resembling to the naked eye cirrhosis, but showing under the microscope tubercular follicles and bacilli. It is important for the veterinarian to remember the physical characteristics of this form, because the absence of nodulation might suggest a non-tubercular condition. In such cases the tuberculin test would aid in the diagnosis. Induration of the udder is common among dairy cattle, and we can hardly expect cattle-owners to exercise much care in the discrimination between tubercular indurations and non-tubercular ones, even had they knowledge on the subject. Bone tuberculosis is rarely seen, owing to the difficulties of observation. Brown has seen a few cases of tuberculosis of the sternum. The tubercle follicle may be regarded as a special arrangement, and modification of leucocytes and phagocytes for the purpose of resisting the infection by the tubercle bacillus. The giant cell forms a constant and conspicuous feature in the early stages of bovine tubercle growth as it does in the human subject. By many observations of bovine tubercle he thinks the origin of the giant cell may be more simply explained than by such terms as epitheliloid cells, karyokineses, and karymitosis. On examining the giant cell on section, a a central dirty-yellowish mass is seen with frequently numerous tubercle bacilli. Surrounding this we have a row of cells, which, so far as he can judge, differ in no way from surrounding leucocytes or phagocytes. In some cases the giant cell is composed entirely of leucocyte-looking cells, but usually there is a central granular mass surrounded by a row of cells. Probably the original cell is a solid sphere and what looks like giant cells may be due to segments taken near the periphery or poles of the sphere. The central portion may be regarded as debris of dead leucocytes from conflict with the tubercle bacilli in the interior. He thinks that as soon as the tubercle bacilli invade the tissue, leucocytes and phagocytes squeeze their bodies through the walls of the capillaries and "go for" the bacilli, which they isolate in groups and surround, forming a so-called giant cell.

Medical Press and Circular, July 3.

The "Monoma." Herbert Snow.—Lawson Tait distinguished two forms of myoma of the uterus: The ordinary form which is usually multiple when first encountered or soon becomes so, and the rarer, soft edematous myoma invariably solitary and thus remaining, but always increasing in bulk. The author holds, while the common myoma is unquestionably a benign new growth, the rarer, soft edematous myoma is truly a malignant one. Snow had the opportunity of examining a microscopic section from two of these tumors, one showing only non-striated muscle fiber, and the other the abundant nuclei and small spindle cells of a myo-sarcoma. In such matters, however, he insists that the clinical evidence of malignancy is far more trustworthy than the report of a microscopist, who has never seen the case. The malignant portion is commonly limited to certain areas, which may be neglected in thin sections made for the microscope or may escape notice, even if included. He reports a case in which a patient had a tumor removed by celiotomy and did well for several days, and then suddenly died from intestinal obstruction and rupture without any mechanical source of obstruction. A very minute region of the tumor displayed the heaped-up leucocytes and abundant cell proliferation denoting cancerous degeneration. He calls attention especially to the following points: "1. The existence of this progressive and malignant growth, for which I venture to propose the new term 'monoma.' 2. The importance of differentiating it from the comparatively harmless myoma, by this or some other distinctive word. For, here, there can be no question of tentative measures or of delay. The disease is malignant, and once recognized should be immediately removed. 3. The important question of diagnosis hitherto neglected and as yet unsettled. The presence or absence of vaginal hemorrhage, as insisted on by Lawson Tait, is untrustworthy. With that event alcoholic habits have much to do; age also is an uncertain factor. If we encounter a solitary rounded, doughy, central uterine tumor which is growing rapidly, while the patient is losing weight; if we find an indistinct fluctuation, so that we doubt whether it is not an ovarian cyst we are dealing with, and if there has been much recent trouble and anxiety, then I hold we are justified in diagnosing a monoma and in advising prompt excision." The naked-eye appearances of tumor will resemble the ordinary myoma, but its solitary condition, the division of cut surfaces into lobules between which are connective-tissue trabeculæ infiltrated with serum; the presence of soft areas into which one can easily push one's finger, and the greatly hypertrophied uterine wall simulating pregnancy, differentiate it. Under the microscope the malignant portions should show numerous leucocytes with cancerous proliferation of the muscle nuclei, while the non-malignant display only the phenomena of well-organized muscle. The pathologist, however, must be supervised or the section will probably be taken from the tough well-organized area and the really important parts be neglected.

Annales de l'Institut Pasteur (Paris), June.

Role of Intestinal Parasites in Appendicitis. J. Girard. The appendix was resected as a prophylactic measure in a child of 8, during the evacuation of an abscess in the right iliac fossa. The appendix appeared normal on the outside, but it contained a male and female trichocephalus and the head of one was buried in the lining mucous membrane. A zone of inflammation extended around this spot and leucocytes, streptococci and other micro-organisms were numerous in the inflamed tissue.

Antirabic Vaccinations in 1900. E. Viala.—Out of the 1420 persons who received antirabic vaccination at the Pasteur Institute during 1900 four died. Besides these, one died during treatment and six others in less than fifteen days afterward. Experiments on dogs have shown that when the nerve cells were already invaded before treatment was commenced, death follows in less than fifteen days. In 179 cases, including the 4 fatal ones, the rabies was proved by positive inoculation of other animals; in 866 it was established by veterinary examination, and in 375 it was merely suspected. The mortality in the first group was, therefore, 2.23 per cent., or 0.28 per cent. of the total number treated.

Archives de Neurologie (Paris), May.

Results of Operative Treatment of Jacksonian Epilepsy. Raymond.—In this article thirty-one cases are reviewed, all treated by excision of a portion of the cortical zone in the epileptogenic focus. Of these, nine were improved; 13 were cured (3 more than three years ago), and 9 were unaffected. Some writers attribute recurrence to cicatricial adhesions, but Raymond believes that it is due to pathologic substitution by sufficient epileptogenic centers. In some of the cases the region of Rolando appeared intact. The alterations may possibly be of a purely dynamic nature, and may extend over a considerable portion of the cerebral cortex.

Archives Generales de Med. (Paris), July.

Erysipelas. H. Roger.—Salves, plasters and collodions in the treatment of erysipelas have been completely banished from Roger's service, which included 1568 cases last year. He finds that spraying the affected part with a solution of ether saturated with camphor relieves, and does no harm. Collodion cracks, and the sharp edges of the crack cut the inflamed tissues. He applies hot compresses as the best means of local treatment. In case of gangrene of the limbs, he orders a local bath of 1 to 10,000 potassium permanganate, dressing with gauze moistened with neutralized hydrogen dioxid. If the gangrene becomes threatening, he injects the dioxid diluted with an equal amount of a 4 to 1000 solution of sodium bicarbonate, injecting 5 or 6 c.c. at three or four points around the lesion. General treatment is the same as that for any infectious disease.

Revue Mensuelle des Maladies de l'Enfance (Paris), April.

Rheumatic Chorea. E. Weill.—A child of 7 suffered from rheumatism localized in the muscles of legs and arms, with spasmodic contractions simulating tetany, chorea, plastic endocarditis, dyspnea, etc., but no arthropathy. The autopsy disclosed an acute interstitial myocarditis. The periosteum and tendon sheaths were the seat of numerous rheumatic lumps. Those in the tendon sheaths were of the usual type, but those in the periosteum were due to a process similar to that of an endocarditic granulation, an interstitial inflammation with fibrinous exudation. The rheumatic infection in this case seemed to avoid the serous tissues and localize by preference in the interstitial connective tissue.

May.

Pathogenesis of Nightmares and Night Terrors in Children. J. G. Rey.—In Rey's large experience he has always found that nightmares and night terrors could be traced to some obstacle to respiration and hematosis, either direct or of reflex origin. Both are merely the result of a slow, prolonged intoxication with carbon dioxid, which explains all the concomitant symptoms.

June.

Manipulative Treatment of Congenital Luxation of the Hip-Joint. G. Nové-Josserand.—From an experience with 115 cases of congenital luxation of the hip-joint, this writer concludes that the Lorenz method of treatment applied before the patient is 5 years old, gives an anatomic and functional result which represents an actual, radical cure in 50 per cent., and a satisfactory functional result in 80 per cent. Nearly every case is improved. No other method gives results that can be compared with this. The younger the patient, the better the chances of success. Even 16 to 17 months is not too young, if the children are trained well enough to allow of a bandage being worn. After the fifth year, success is less frequent and the functional results are less perfect. The improvement in the limping and in the figure, the ability to bear fatigue and the fact that the troubles resulting from the luxation remain stationary at least, are sufficient grounds to recommend the method until the tenth year. After that age, the dangers of serious fractures and nervous troubles, contraindicate it except in especially favorable cases. Even between 5 and 10, a pure supra-cotyloid luxation with no tendency to become aggravated and with but slight limping, may spontaneously improve, while this method of treatment will probably cause little, if any, improvement.

July.

The Mechanism of Infectious Erythemata. P. Nobecourt.—Study of ten young children with infectious erythemata has convinced Nobecourt that the mechanism of these infections is somewhat as follows: In the course of an infection from the streptococcus or some other germ, the liver fails to destroy all the toxins elaborated, and the kidney is unable to eliminate them all. The unneutralized toxins, thus retained in the body, affect the vasomotor centers for the skin, and induce an erythema or purpura.

Arsenic Iodid in Chronic Bronchitis in Children. R. Saint-Philippe.—In the bronchitic tendency noted in children after convalescence from infectious diseases, or in the emphysematous bronchitis observed in rachitic, scrofulous or lymphatic children, medication should aim to stimulate nutrition and change the secretions. Cod-liver oil answers these conditions, but is seldom accepted by the spoiled children of our day. Potassium iodid, for the same reason, can not be kept up long enough to accomplish its purpose. Under these circumstances, arsenic iodid has proved extremely useful in several years of experience. Saint-Philippe orders it in the formula of 30 cg. in 30 gm. distilled water. Five drops are taken at each meal, increasing by a drop morning and evening to fifteen or twenty. This dose is kept up for a month, then decreased in the same proportion to five drops, suspended for eight or ten days and recommenced.

Revue Neurologique (Paris), April 30.

Hysteric Aphasia. G. Guillain.—The case described was diagnosed as a typical chronic, right hemiplegia with aphasia from embolism or thrombosis, and was long treated as such without relief. The diagnosis was then altered to a functional lesion of hysteric origin. The affection had commenced with a sudden onset after a violent emotion, the subject being a young man free from syphilis and arteriosclerosis. Among the suspicious signs were that the leg did not drag in walking, and that the patient could pick up a pin on the table with ease. The knee-jerk and all the reflexes on one side were exaggerated. Flexion of the elbow was equal on both sides.

Revue de Therapeutique (Paris), July 1 and 15.

The New Conception and Treatment of Gout. A. Morel-Lavallée.—The Journal has already mentioned—p. 289—Joulie's recommendation of phosphoric acid as a means of restoring missing acidity to the organism. He is not a physician, but in his chemical research he discovered that 12 out of every 13 arthritic subjects are hypoacid, and that only one is hyperacid. Instead of being saturated with uric acid, as generally assumed, by far the larger proportion of gouty and other arthritic subjects suffer from the lack of normal acidity. He remarks that almost any acid would answer the purpose and comply with the therapeutic indications, but for various reasons he recommends phosphoric acid as the best treatment for all forms of the arthritic diathesis in which the acidity of the urine is subnormal. Morel-Lavallée has recently had occasion to observe a case which has proved not only a brilliant confirmation of these views, but explains the mechanism, and hence, solves the therapeutic problem. He had in his charge for fourteen months a patient with an ordinary impetigo of the face and fingers, gradually assuming an ulcerative, seborrheic character. The thick, fatty matter that filled the ulcerations and the tunnels beneath the skin could be massaged along and squeezed out through the intact skin beyond the lesions. In the fourteenth month of this cutaneous affection, it suddenly changed completely. The soft edges of the ulcerations became hard and as if calcified; the substance eliminated grew more and more chalky until the particles were actually calcareous. The ulcerations became more symmetrical in their arrangement, coinciding exactly with that of the superficial lymphatic vessels of the face and terminal phalanges, and were located at the pouches above the valves, and at the points of anastomosis. From all of them were eliminated the chalky particles above mentioned. Gout was unknown in the patient's family, but he was a confirmed arthritic, and at various times an excess of uric acid had been noted in his urine. Analysis now showed no uric acid, nor excess of urates, but the chlorids were scanty and there was phosphaturia. The coefficient of the acidity of the urine was one-third less than normal, and at the same time, chemical analysis of the calcareous particles eliminated from the ulcerations disclosed that they were composed of calcium phosphate and sulphate. The essence of this peculiar case of ulcero-calcifying, phosphatic-calculous lymphangitis was thus revealed as the result of hypoacidity. The alkaline earthy phosphates, derived from resorption of the bones or from the food, were insoluble in the hypoacid fluids of the body, and consequently circulated undissolved and were precipitated at the points where the circulation was most sluggish from the anatomic structure or from a preceding lesion. Phosphates are thus precipitated in hypoacid subjects and urates in the hyperacid. These conditions may alternate or succeed each other. When the amount of carbon dioxid in the blood, saturated with ammonia from the disassimilation of nitrogenized matters, becomes diminished from any cause, the alkaline earthy phosphates in the blood become neutral and insoluble basic phosphates and are swept along in the circulation in the form of a mineral sand. This sand may obstruct the lymphatic or blood capillaries and induce inflammation and more or less pain in the organs affected—the viscera, articulations or skin. This precipitation of salts is probably the cause of gout and allied affections, and the loss of the phosphates debilitates the organism. These assumptions were established as facts by the results of treatment in the case described. Phosphoric acid was administered and the old accumulations of calcareous matters massaged out through the ulcers and the intact skin. In four days the scene had changed as if by magic; the calcareous matters became transformed into a transparent, gelatiniform substance, and the prominent, clogged lymphatic vessels subsided and became permeable for the first time in months. In arthritism the metabolism may be diminished and the oxidations reduced, uric acid and the urates in excess, the subjects hyperacid and the nutrition retarded. On the other hand, the metabolism may be increased, the oxidations excessive, the outgo exceeding the intake, the subjects hypoacid and the nutrition accelerated. The arthritic subject is a victim of either retarded or galloping nutritional processes, due respectively to hyperacidity and to hypoacidity. The latter condition prepares the soil and entails gouty cachexia or some wasting disease, rachitism, phosphatic or oxalic gravel, hyperchlorhydric dyspepsia, varices, hemorrhoids or eczema. The cause of these affections is the precipitation of the salts of the serum in the living subject, rendered insoluble by the lack of the acid needed to keep them dissolved. Lavallée concludes: "If, as Joulie asserts, in twelve-thirteenths of the cases the subjects are hypoacid, the alkalies with which they have been so systematically dosed, must have directly added to the deposits of phosphates in the capillaries, and thus piled up an imperishable monument to the glory of routine therapeutics." He explains the undoubted benefit derived from courses of mineral waters as due to the mechanical rinsing out of the capillaries, etc., by the large amounts of water ingested.

Beitraege z. Geburt. u. Gynaek. (Leipsic), iv, 1.

Intra-Uterine Bag for Delivery with Deformed Pelvis. F. Ahlfeld.—Looking over his maternity records for ten years, Ahlfeld discovered that whereas formerly, an average of 60.4 per cent. of the children of mothers with pelves so deformed that artificial delivery was necessary, left the hospital alive, the average has fallen to 44.8 per cent. since the introduction of the dilatable rubber bag as a routine means of inducing delivery in these cases. The bag interferes with delivery and he now uses it during the first stage only. He finds that better results are attained when the delivery is not postponed too long, and the infants are extracted and placed at once in the incubator. He makes every effort to secure head presentation.

Primary Carcinomatous Degeneration of Dermoid Cyst. E. Kehrer.—All of the eight cases on record have proved rapidly fatal, an epithelioma in seven and an adenoma in one. A personal case is described, the patient 46 years old. Death was due in this case to pulmonary embolism. The age ranged from 41 to 65 years in all but one case, in which the patient was 21 years old.

Bacterial Flora in Mouth of the Newborn. O. Kneise.—In 97.5 per cent. of a large number of infants examined, abundant bacterial flora was discovered in the mouth at the moment of birth. Staphylococci and streptococci were particularly numerous and virulent in many cases. The bacteria found were always identical with those discovered in the vaginal secretions at the same time, and are evidently due to the aspiration of these secretions in the infant's attempts to swallow, or they are forced into its mouth by pressure of the vaginal muscles. These germs in the infant's mouth are probably the source of mastitis in many cases, and in its treatment, the child must be kept from the affected breast if necessary. They also prove the fallacy of the assumption of the auto-sterilization of the vagina.

Deutsche Archiv f. Klin. Med. (Leipsic), lxx, 3 and 4,

Typical Signs of La Grippe. F. Franke.—In 1892 Franke noticed in la grippe a typical red stripe on the anterior pillars of the soft palate, and this sign he has never failed to find after the first few days of sudden onset. It is particularly marked and significant in chronic or recurring cases. The stripe varies from 1 to 2 mm. in width, the maximum 6 to 7 mm. at the top, and looks like a dark red rainbow arching with the palate, interrupted only in the center, as the uvula is never involved, nor the tonsils nor tongue. It is sometimes a bluish red and may cause subjective symptoms of constriction, relieved by swabbing with a 2 per cent. solution of nirvanin. He has also noted a typical swelling of the papillæ of the front of the tongue, sometimes confined to the lower surface. At every recurring attack they swell again, suggesting the scarlet fever tongue. The spleen is usually enlarged in la grippe, even in the chronic stages. These three signs will serve to differentiate the disease from the deceptive pseudo-neuralgias, pseudo-appendicitis, etc. Another sign is the tendency of the subjects to be chilly or catch cold on the slightest provocation. Cold hydrotherapy is injurious in such cases.

Muenchener Med. Wochenschrift, July 16.

A Crystalline Immunization Product. H. Buchner.—The serum of rabbits treated with preliminary injections of chemically pure peptone, produces a specific precipitation when mixed with a dilute solution of peptone, which assumes the form of round or oval crystals. Buchner calls these crystals globulites and states that they are amazingly resistant. They are insoluble and unchanged in concentrated, hot nitric and hydrochloric acid and cold sulphuric acid, in alcohol, etc., and are soluble only in hot, concentrated sulphuric acid, in which they slowly dissolve. They swell slightly in caustic potash. The substance of the crystals turns brown under protracted dry heat with an odor as of burnt horn, and an ash skeleton remains, insoluble in concentrated hydrochloric acid. He found that serum from rabbits treated with beef blood produced the same ring of crystals after the addition of the solution of peptone as from the control animals treated with peptone, and the reaction was even more rapid and pronounced in the former case. Rabbits injected with even as little as 3 c.c. of beef blood produced a serum that precipitated the crystals in two minutes after the addition of the peptone.

Milk Treated with Rennet in Infant Feeding. F. Siegert.—The Journal called attention at the time to von Dungern's announcement that the addition of a little rennet to milk rendered it infinitely more digestible, absolutely preventing the formation of large curds in the stomach. The Höchst works manufacture a chemically pure rennet especially for this method of infant feeding. Enough can be taken up on the point of a knife for 200 gm. of milk. It is added to the blood-warm milk in the bottle and shaken once, then placed in warm water for five or ten minutes until the milk clabbers. The bottle is then vigorously shaken until the clots are broken up into minute flakes, when it is ready for use. Siegert has been testing this method on a large scale and considers it a distinct advance. From his experience with more than fifty infants during the last six months he most strongly recommends it to all physicians. The results in his experience have been invariably satisfactory. Milk thus treated is equally adapted to older, dyspeptic or debilitated children or adults.

Scopolamin-Morphin Anesthesia. B. Korff.—From an experience with eighty patients on whom serious operations were performed when under the influence of the scopolamin-morphin method of anesthesia recommended last year by Schneiderlin, Korff announces that it is a very valuable method of narcosis, free from danger or inconvenience and with many advantages over other methods. Vomiting does not occur; the patients come to the table quiet and drowsy and after they are put back to bed, they sleep quietly, without tossing, for nearly twelve hours, free from pain of any kind. These conditions are ideal for the adhesion and healing of the operative wounds. Nearly all wake up and ask when the operation is going to begin. When they wake they are ready to take soup, coffee, etc.; appetite and digestion proceed normally; the heart action, respiration and renal functions are undisturbed. The pupils react normally after ten to twenty-four hours. In only one of the cases was any disturbance noted, and this was a pulse of 46 for twenty-four hours. The scopolamin and the morphin are antagonistic in their action. Morphin retards and scopolamin accelerates the respiration and heart action. Morphin paralyzes the sensory, and scopolamin the motor nerves. The method is yet in the tentative stage, and larger doses might be given. Korff limited his doses to .4 mg. scopolamin with 1 cg. morphin. After the patient is prepared for the operation, a liquid breakfast is taken at 7; at 8:30 the first dose is injected, 4 mg. scopolamin and 1 cg. morphin. At 10:30 the same dose is injected at another point. Certain patients may require a third injection at 12 of the same dose. The operation is commenced an hour after the last injection, and if necessary, two or three drops of chloroform may be administered to complete the anesthesia. From now on, Korff expects to use 1.2 mg. scopolamin at a dose, as he is convinced of its harmlessness under these conditions, and this will render the chloroform superfluous. All writers unite in lauding the sedative action and harmlessness of scopolamin.

July 23.

Thirty-four Abdominal Operations Without Narcosis. A. Schmitt.—With a 1 per cent. solution of cocain or occasionally with Schleich's infiltraton anesthesia, Schmitt performed thirty-four major operations on patients whom he deemed too debilitated to bear general narcosis. He found that the pain was comparatively slight. Traction of any of the abdominal tissues causes the patient pain, but the parietal peritoneum, the stomach, intestines, omentum and bladder can be incised and grasped in forceps without pain. Strange to say, two of the ten patients on whom gastro-enterostomy was done, succumbed to post-operative pneumonia, although thorough precautions were taken in every case to avoid chilling the tissues. It suggests the possibility that cocain, or any anesthetic, is in itself liable to induce pneumonia. This assumption, however, is disproved by the assertion that pneumonia does not follow operations on goiter, etc., although as much of the anesthetic may be used as for an abdominal operation. The true explanation is probably the debilitated condition of the patient combined with some latent affection of the air passages.

Formalin for Inoperable Carcinoma. F. Torggler.—In order to clean, dry and keep under control an inoperable carcinoma of the uterus. Torggler swabs it with 4 per cent. solution of formalin, repeating the swabbing later with a 10 per cent. solution, leaving the swab in place for five or ten minutes each time. His experience with 150 cases during the last four years has been extremely satisfactory with formalin as a palliative measure.

Neurologisches Centralblatt (Leipsic), July 1.

Myasthenia Gravis. L. Laquer.—An intelligent artisan, 30 years old, with no syphilitic nor alcoholic antecedents, noticed in 1896 sudden attacks of vertigo, sleep disturbed by violent nervous palpitations, oppression and distress, and occasional syncope after long walks. The symptoms gradually increased and included pallor and anemia, oppression in stomach and pains in head and back. In 1900 he began to find difficulty in raising his arm, followed by ptosis in both lids and the muscles of chewing and swallowing became easily fatigued. The patient succumbed to the course of this progressive myasthenia which had always been restricted to the motor sphere. The autopsy showed that all the organs were macroscopically sound except one. In the place of the thymus, a tumor had developed, 5 by 3 cm. in diameter, close to the pericardium and adherent to the lung at one point. The tumor contained numerous accumulations of blood with islands of tissue composed of lymphoid cells and macrophages characteristic of the normal thymus, also Hassal's corpuscles. The walls of the small veins and some of the smaller arteries had been destroyed, and the walls and lumen were crowded with these same cells. They were also discovered scattered through the muscles, accompanied by the microscopic accumulations of blood. The small lymphoid cells predominated. The accumulations of cells were probably metastases in the muscles of the malignant thymus tumor. The deltoid and diaphragm were the only muscles examined. The same accumulations of cells were found also in the heart, especially in the pericardium, but were much less numerous. The portions of the nervous system examined seemed to be intact.

Inherited Associated Movements. M. Levy.—A case is described of remarkable, symmetrical co-ordinated movements, pathologic only in their intensity and their involuntary character. The impulse to mirror-writing was a prominent feature in the case, which was especially striking on account of the fact that the entire syndrome had been perpetuated through three generations. The father wrote mirror-writing at will, but the son could not write any other way.

Virchow's Archiv (Berlin), 164, 3.

Air Lavage of Pleural Cavity after Paracentesis. Kawahara.—Immediately after evacuation of the effusion in case of pleuritis, the air is allowed to enter the pleural cavity through the same canula. After the pressure has been equalized, the remaining portion of the effusion is aspirated and air is allowed to enter again, repeating this irrigation of the cavity with air as long as any effusion can be aspirated. By this method all danger from negative pressure is avoided, and repeated tests, experiments and clinical research have shown that there is no danger of suppuration. Pyogenic microorganisms do not develop under these conditions and, consequently, it is unnecessary to filter the air. The effusion can be evacuated gradually at intervals of several hours in case of a hemorrhagic effusion and is especially valuable under these circumstances. It is also peculiarly adapted for cases in which paracentesis has to be interrupted for any cause, or when the evacuation of the effusion is hindered by pleuritic adhesions or by impaired elasticity of the lung. Kawahara reports 39 cases in detail, although he has had an experience of more than 70 in all since 1891. Death occurred in 5 per cent.; the termination of 10 per cent. is unknown; 85 per cent. recovered.

Zeitschrift f. Klin. Med. (Berlin), xxxiv, 1 and 2.

Etiology of Carcinoma. E. v. Leyden.—The intracellular parasites that have been discovered in carcinomata are probably protozoa—tender creatures which require protection such as is furnished by the albumin and fat on which carcinomata are nourished. The fat droplets in carcinomata are what render its study with the microscope and stains so difficult.

Experimental Inherited Tuberculosis. F. F. Friedmann.—One or two drops of a diluted culture of the tubercle bacillus were injected into the vaginas of rabbits immediately after the animals had coupled. In every case it was found that one or more of the bacilli had penetrated into the fertilized ovum with the spermatozoa. None of the 500 sections was negative. In every case also, all the other bacilli had been harmlessly eliminated through the vagina. The embryo was thus infected without the intermediation of the mother, and the latter was unharmed by the paternally derived infection. None of the bacilli were found swallowed by leucocytes. The preliminary report of this research was mentioned in The Journal a few weeks ago.

Rivista Sperimentale di Freniatria (Reggio), xxvii, 1.

Acid Intoxication in Epilepsy. P. Pini.—The injection into rabbits of brain substance from the cadavers of epileptics did not cause symptoms of intoxication beyond a slight rise in temperature. Injection of 2 to 5 c.c. of blood, drawn from an epileptic in the intervals between seizures, had no effect on the animals, but the injection of 1 to 3 c.c. of blood drawn during an attack, produced paralysis of the hind legs in the rabbits, and all died in the course of forty days. Supplementing these facts with those noted at the autopsy of twenty epileptics who had died during an attack, Pini has become convinced that epilepsy is an acid intoxication. Gout is due to abnormal elimination of uric acid, and epilepsy to some abnormal process in the formation of uric acid. The epileptic seizure is a kind of safety valve that relieves the organism from the substances produced in the morbid metabolism.

Rivista di Patologia Nerv. e Ment. (Florence), May.

Multiple Cysticercosis of the Brain and Epilepsy. A. Lui.—The epilepsy in the case reported had been developing for ten years. The patient was a young man. At the autopsy cysticerci were found disseminated through the cortex and meninges, respecting the motor zone. The case is a striking confirmation of the assumption of the cortical nature of epilepsy.

Anales de Oftalmologia (Mexico), July.

To Improve the Results of Ocular Prothesis. O. Wernicke.—Before proceeding to the enucleation of the eyeball, a portion of skin in the gluteal region is disinfected. After the eyeball has been removed, a thread of catgut is passed through the tendon of each of the rectus muscles. A disc of skin with considerable fatty tissue adhering is cut out of the gluteal region and sutured in place of the eyeball in the orbit. The rectus muscles are sutured to the edge of the derma and the conjunctiva drawn up over it with a purse-string suture. After four or five days the suture is removed, which allows the conjunctiva to retract to the edge of the implanted disc. The latter soon loses its cutaneous appearance. The conjunctiva is not sacrificed and has only to cover the space normally covered by it, while the sac retains its normal shape.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A Manual of Surgical Treatment. By W. Watson Cheyne, C.B., M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, and F. F. Burghard, M.D., and M.S. (Lond.), F.R.C.S., Teacher of Practical Surgery in King's College, London. In seven volumes. Volume V. The Treatment of the Surgical Affections of the Head, Face, Jaws, Lips, Larynx, and Trachea; and the Intrinsic Diseases of the Nose, Ear and Larynx. By H. Lambert Lack, M.D. (Lond.), F.R.C.S., Surgeon to the Hospital for Diseases of the Throat. Cloth. Pp. 470. Price, $5.00. Philadelphia and New York: Lea Brothers & Co. 1901.

The Retrospect of Medicine. A Half-Yearly Journal, Containing a Retrospective View of Every Discovery and Practical Improvement in the Medical Sciences. Edited by James Braithwaite, M.D. Lond., Consulting Obstetric Physician and Surgeon to the Leeds General Infirmary, and E. F. Trevelyan, M.D., Lond., B.Sc., F.R.C.P., Assistant Physician to the Leeds General Infirmary. Volume CXXIII. January-June, 1901. Issued July, 1901. Cloth. Pp. 469. Price, $1.50. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.

The Illinois State Board of Health. Report of the Sanitary Investigations of the Illinois River and Its Tributaries. With Special Reference to the Effect of the Sewage of Chicago on the Des Plaines and Illinois rivers prior to and after the opening of the Chicago Drainage Canal. Cloth. Pp. 219. Springfield, Ill.: Phillips Bros. 1901.

Surgical Applied Anatomy. By Sir Frederick Treves, K.C.V.O., C.B., F.R.C.S., Sergeant Surgeon to H. M. the King. New Edition, Revised by the Author. With the Assistance of Arthur Keith, M.D., F.R.C.S., Lecturer on and Senior Demonstrator of Anatomy at the London Hospital. Illustrated with 80 Engravings. Cloth. Pp. 571. Price, $2.00. Philadelphia: Lea Brothers & Co.

Forty-third Annual Report of the Washingtonian Home, for the Year Ending April, 1901. Located at 41 Waltham Street, Boston. Paper. Pp. 19. Boston: T. W. Ripley.

Annual Report of the Board of Health of the City of Lancaster, Pa., for the Fiscal Year Ending Dec. 31, 1899. Paper. Pp. 149. Lancaster, Pa.: Halbach.

Transactions of the Southern Surgical and Gynecological Association. Volume XIII. Thirteenth Session, held at Atlanta, Ga., Nov. 13. 14 and 15, 1900. Cloth. Pp. 436. Published by the Association, 1901.

Western Reserve University. Reports of the President and Faculties. 1900-1901. Paper. Pp. 181. Cleveland: Winn and Judson. 1901.

Transactions of the American Microscopical Society. Edited by the Secretary. Twenty-third Annual Meeting, held in New York City, June 28, 29 and 30, 1900. Volume XII. Paper. Pp. 228. Lincoln, Neb.: State Journal Co. 1901.

New Patents.

679,202. Producing pure saponin solutions. M. C. L. Althausse, Billwarder-an-der-Bille, Germany.

679,203. Obtaining hydrocellulose. M. C, L. Althausse, Billwarder-an-der-Bille, Germany.

679,204. Obtaining hydrocellulose. M. C. L. Althausse, Billwarder-an-der-Bille, Germany.

678,943. Compress. John C. Davis, Kansas City, Mo.
679,262. Antiseptic applying apparatus. Wilber M. Kelso, Chicago, Ill.
678,892. Apparatus for sterilizing liquids. John C. Miller, Canton, Ohio.
678,893. Apparatus for sterilizing and cooling liquids. John C. Miller, Canton, Ohio.
679,239. Cataphoric pad. John F. Mossberg, Minneapolis, Minn.
679,036. Ophthalmoscope. Elmer L. Ryer, New York City.
679,198. Hypodermic syringe. Charles Witkowski, Boston, Mass.
679,044. Ophthalmoscope. Henry L. de Zeng, Philadelphia.
679,524. Water-bag. Charles J. Bailey, Newton, Mass.
679,600. Culture of bacteria. Albert Caron, Haus Ellenbach, Germany.
679,667. Adjustable invalid's table. Samuel M. Davis, San Francisco, Cal.
679,671. Syringe nozzle. Charles T. Hannigan, Providence, R. I.
679,478. Menstrual receptable and uterine supporter. Jacob R. Lang, Rockport, Ind.
679,626. Sterilizing apparatus. Arthur E. Leach, Winthrop, Mass.
679,388. Chemical apparatus. J. F. W. Meyer, Scheune, near Stettin, Germany.
679,436. Atomizer. Emanuel J Sonn, New York City.
679,712. Speculum. Richard E. Venning, Charlestown, W. Va.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., July 25 to 31, 1901, inclusive:

Walter K. Beatty, contract surgeon, now at San Francisco, Cal., to report for assignment in the Department of California.

Arthur J. Boyer, contract surgeon, from Fort Columbus, N. Y., to Fort Lawton, Wash., for post duty.

Thomas S. Bratton, captain and asst.-surgeon, U. S. A., leave of absence granted.

James Carroll, contract surgeon, from Washington, D. C., to Havana, Cuba, not later than Aug. 5, 1901, for the purpose of continuing the investigation into the causation and treatment of yellow fever, and on the completion of this duty to return to his proper station not later than Oct. 1, 1901.

William H. Corbusier, major and surgeon, U. S. A., member of an examining board in New York City, relieving Major H. S. Kilbourne, surgeon, U. S. A.

G. Parker Dillon, contract surgeon, from Fort Sheridan, Ill., to post duty at Jefferson Barracks, Mo.

Guy L. Edie, major and surgeon, U. S. A., sick leave of absence granted.

Charles B. Ewing, major and surgeon, U. S. A., is relieved from duty in the Division of the Philippines to take effect Sept. 4, 1901, and will then proceed to the United States, reporting his arrival by telegraph to the Adjutant-General of the Army.

Bower E. Himes, contract surgeon, now at Mill Creek, Pa., will proceed to Fort Missoula, Mont., for post duty.

John S. Kulp, captain and asst.-surgeon, U. S. A., member of an examining board in New York City, relieving Major W. D. Crosby, surgeon, U. S. A.

William F. Lewis, captain and asst.-surgeon, U. S. A., member of a retiring board at Fort Leavenworth, Kan.

Charles J. Long, contract dental surgeon, from Rock Island, Ill., to San Francisco, Cal., en route for duty in the Division of the Philippines.

John S. Marshall, contract [illegible] vising dental surgeon, relieved from duty in [illegible] to proceed to Milwaukee, Wis., to represent th[illegible] of the Army at the meeting of the National Dental Association, to be held in that city Aug. 5 to 9, 1901, and thereafter to proceed to San Francisco, Cal., for assignment at the Presidio of San Francisco.

Robert W. Morgan, contract examining and supervising dental surgeon, relieved from duty in Washington, D. C., and assigned to Columbia Barracks, Havana, Cuba.

Robert T. Oliver, contract examining and supervising dental surgeon, relieved from duty in Washington, D. C., to proceed to San Francisco, Cal., en route for assignment in the Division of the Philippines.

George R. Plummer, captain and asst.-surgeon, Vols., leave of absence extended.

Henry I. Raymond, major and surgeon, U. S. A., member of a board in Chicago, Ill., for the examination of such persons as may be ordered before it to determine their fitness for appointment as lieutenants in the army.

Henry H. Rutherford, lieutenant and asst.-surgeon, U. S. A., is honorably discharged from service as a captain and asst.-surgeon of Vols.

Herbert G. Shaw, lieutenant and asst.-surgeon, U. S. A., recently appointed and now at the Presidio of San Francisco, Cal., is assigned to temporary duty at that post.

Charles Smart, colonel, asst.-surgeon-general, to proceed to New York City on official business pertaining to the Medical Department of the Army and upon the completion of this duty to return to his station in Washington, D. C.

Richard P. Strong, lieutenant and asst.-surgeon, U. S. A., leave of absence granted.

August von Clossman, contract surgeon, from Jefferson Barracks, Mo., to duty in St. Louis, Mo.

Joseph W. Walsh, contract surgeon, from duty at the General Hospital, Washington Barracks, D. C., fo Fort Canby, Wash., for post duty.

Samuel T. Weirick, captain and asst.-surgeon, Vols., recently appointed, relieved from duty at Fort Gibbon, Alaska, to proceed to San Francisco, Cal., en route for assignment in the Division of the Philippines.

J. Samuel White, contract surgeon, from duty at the General Hospital, San Francisco, Cal., to Fort Gibbon, Alaska.

Timothy E. Wilcox, major and surgeon, U. S. A., member of a board at Chicago, Ill., for the examination of such persons as may be ordered before it, to determine their fitness for appointment as lieutenants in the Army.

Allie W. Williams, lieutenant and ass.-surgeon, U. S. A., member of an examining board in New York City, relieving Captain John S. Kulp, asst.-surgeon, U. S. A.

Navy Changes.

Changes in the Medical Corps of the Navy, week ended Aug. 3, 1901:

Asst.-Surgeon J. W. Backus, detached from the *Vermont* and ordered to the Asiatic station, August 16.

Asst.-Surgeon F. A. Asserson, detached from the Naval Hospital, New York, and ordered to the Asiatic station, August 16.

Surgeon S. H. Griffith, relieved as recruiting officer at Buffalo, N. Y., and ordered to continue other duties.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Aug. 1, 1901:

Surgeon Fairfax Irwin, granted leave of absence for twenty-one days, from August 7.

P. A. Surgeon J. O. Cobb, bureau letter of July 22, 1901, granting leave of absence for thirty days from July 24, amended so that said leave shall be effective July 25.

P. A. Surgeon C. P. Wertenbaker, to proceed to Camp Fontainebleau and adjacent coast towns as inspector.

P. A. Surgeon J. B. Greene, relieved from temporary duty at Washington, D. C., and directed to proceed to New York (Stapleton) and report to medical officer in command, for duty and assignment to quarters, relieving Asst.-Surgeon Taliaferro Clark.

Asst.-Surgeon Taliaferro Clark, upon being relieved by P. A. Surgeon J. B. Greene, to proceed to Immigration Depot, New York City, and report to Surgeon G. W. Stoner, for duty, relieving Asst.-Surgeon J. D. Long.

Asst.-Surgeon W. A. Korn, granted leave of absence for one month from August 12.

Asst.-Surgeon J. D. Long, upon being relieved by Asst.-Surgeon Taliaferro Clark, to proceed to Manila, P. I., and report to Chief Quarantin Officer for duty, July 29, 1901. Granted leave of absence for two days.

A. A. Surgeon L. C. Bean, granted leave of absence for thirty days from August 2.

A. A. Surgeon B. Y. Harris, granted leave of absence for fifteen days from August 12.

A. A. Surgeon H. McD. Martin, granted leave of absence for thirty days from August 1.

Hospital Steward T. Y. O'Gorman, granted leave of absence for sixty days on account of sickness, to take effect on date of departure from station.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Aug. 3, 1901:

PLAGUE—UNITED STATES AND INSULAR.

California: Los Angeles, July 13-20, 2 cases; San Francisco, July 14-21, 1 case.
Kentucky: Lexington, April 27-May 4, 11 cases.
Michigan: Grand Rapids, July 13-27, 2 cases.
Nebraska: Omaha, July 6-20, 5 cases.
New Hampshire: Nashua, July 20-27, 1 case.
New Jersey: Newark, July 20-27, 6 cases, 1 death.
New York: New York City, July 20-27, 46 cases, 9 deaths.
Ohio: Cincinnati, July 19-26, 1 case.
Pennsylvania: Philadelphia, July 20-27, 1 case, 1 death.
Tennessee: Memphis, July 20-27, 1 case.
Utah: Salt Lake City, July 20-27, 7 cases.
Washington: Tacoma, July 14-21, 6 cases.
West Virginia: Martinsburg, July 26, 13 cases.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, May 1-31, 247 deaths.
Austria: Prague, July 6-13, 1 case.
Belgium: Antwerp, July 6-13, 4 cases, 1 death.
France: Paris, July 12-19, 5 deaths.
Gibraltar: July 1-14, 2 cases.
Great Britain: Glasgow, 12-19, 3 cases, 1 death; London, July 6-13, 12 cases.
India: Bombay, June 25-July 2, 4 deaths; Calcutta, June 22-29, 5 deaths; Karachi, June 8-30, 13 cases, 6 deaths.
Italy: Messina, July 6-13, 5 cases, 4 deaths.
Netherlands: Rotterdam, July 13-20, 1 case, 1 death.
Russia: Moscow, June 30-July 6, 9 cases, 3 deaths; Odessa, July 6-13, 1 case, 1 death; St. Petersburg, June 15-July 6, 7 cases, 1 death.

PLAGUE—INSULAR.

Hawaii: Honolulu, July 17, 1 death.

PLAGUE—FOREIGN.

India: Bombay, June 27-July 2, 65 deaths; Calcutta, June 22-29, 14 deaths; Karachi, June 8-30, 23 cases, 23 deaths.

YELLOW FEVER.

Costa Rica: Port Limon, July 4-21, 2 cases.
Cuba: Cienfuegos, July 15-18, 2 cases.
Mexico, Vera Cruz, July 13-27, 2 cases, 1 death.

CHOLERA.

India: Bombay, June 25-July 2, 3 deaths; Calcutta, June 22-29, 23 deaths.
Java: Batavia, June 8-22, 49 cases, 27 deaths.

The Journal of the American Medical Association

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Original Articles.

PERNICIOUS ANEMIA.

REPORT OF THE PROGRESS OF CASES PRESENTED TO THE ASSOCIATION IN 1900, AND REPORT OF A CASE WITH DIFFUSE SPINAL CORD LESIONS AND POST-MORTEM FINDINGS.*

FRANK BILLINGS, M.D.
CHICAGO.

Of the twenty cases reported last year to the Association, ten were dead.[1] During the year, of the remaining ten, four have died; of the remainder, two have disappeared, and four are still under observation. No further observations were made of three of the four who died, because of their residence in remote localities, and no autopsies were held upon them. The fourth (No. 14 in the series) died in February of this year, and since the first report many examinations of the blood have been made. Last May, when her case was reported, she was on the decline. She remained in this low state until October, when an improvement wave began, which reached its height in December. At that time she had over 2,000,000 red cells and about 40 per cent. of hemoglobin; then a rapid decline occurred, with a fall to less than 20 per cent. of hemoglobin and 659,000 red cells per cubic millimeter. The white-cell count kept pace with the improvement in the red cells and hemoglobin, and fell with the decline of the other elements of the blood, just as was noted in the report of last year. During the decline there was a large increase in the number of nucleated red cells. The accompanying chart shows graphically the blood curve in this case. Unfortunately, no autopsy was allowed. (See Chart No. 4.)

Upon the cases still living, observations have been continued upon Cases No. 10, 12 and 13 of the series. When reported last year, No. 13 was upon a wave of improvement, and this wave has remained unbroken up to the present time. The number of red cells, the percentage of hemoglobin, and the number of white cells are about normal. There have been no nucleated cells found since January, 1900. The patient, however, does not look as well as the condition of the blood would indicate. There is a yellow tinge of the skin. He is not strong and has less endurance than before the illness began. Furthermore, the blood cells still show irregularities of form and size. It is not improbable that his improvement wave will be broken by a fall in the near future. The case is a remarkable one, because of the long wave of improvement. The chart shows graphically the condition of the blood during the two years he has been under observation, and it is to be noted that even in this stage of improvement the color index has remained high. (See Chart No. 1.)

No. 12 returned from Iowa to Chicago in September, 1900, and since that time has been under weekly observation. She has had various waves of slight improvement and decline with the constant presence of nucleated cells and a high color index. At this date she is in an improvement wave, as indicated by the accompanying chart. (See Chart No. 2.)

No. 13 of the series has been under constant observation since the report. She was upon a wave of improvement when last reported, which continued until September, 1900, since that time there has been a decline, with slight waves of improvement, but the chart shows a continuous decline. Nucleated red cells disappeared entirely from the blood during this long wave of improvement, but have been found during the last two months. When at the greatest height of the wave of improvement, the color index was low, but with the wave of decline came the usual high color index. (See Chart No. 3.)

The continued study of these cases has brought forth nothing new in the way of blood changes. The conclusions which were read in the paper of last year have been fully borne out by the continued examinations made.

*Dr. Joseph A. Capps, who is associated with me in my private work, has made some interesting experiments with the hematocrit during the last year.

It has long been recognized that the blood in pernicious anemia is characterized by the presence of large red cells, both nucleated and non-nucleated. This tendency to enlargement of the cells explains in part their increased capacity for taking up and carrying hemoglobin. To express accurately the actual hemoglobin content of the average cell, we use the convenient term "color index," which is the per cent. of hemoglobin divided by the per cent. of red cells.

The means of determining the size of the red corpuscles is quite as important as the estimation of the hemoglobin-content of the cells.

The old method of measuring the diameter of a large number of cells is unsatisfactory because no account is taken of the thickness of the cell and we know that in this respect great variations occur. A fairly accurate result may be obtained, however, by the use of the centrifuge in connection with a red-cell count. The percentage volume of the red cells as a whole, as obtained from the graduated capillary tube of the centrifuge, is divided by the percentage number of red corpuscles which gives the percentage volume of the individual corpuscle.

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* Read at the meeting of the Association of American Physicians, at Washington, D. C., April 29, 1901.

[1] Transactions of the Association of American Physicians, 1900, p. 308.

* A Preliminary Report on Some Observations of Blood in Anemia. JOURNAL, Feb. 16, 1901.

For the quotient no term has been employed. The name of "volume index," therefore, is suggested corresponding to the familiar "color index."

Thus a reading of 45 on the tube equals 90 per cent. by the hematocrit and if in a given case the red cells number by the Thoma-Zeiss count 3,750,000 or 75 per cent. then 90/75 equals 1.20 the volume index, an increase of 20 per cent. above the normal in the volume of the average cell. In twelve of the series reported this test has been applied and all have shown a large volume index throughout the greater part of the disease. The lowest volume index was .93 and the highest 1.93—the others ranging from 1.05 to 1.59. In some instances the volume index was increased when the cell diameter average was not above the normal, thus indicating a probable enlargement of the cell in depth but not in circumference.

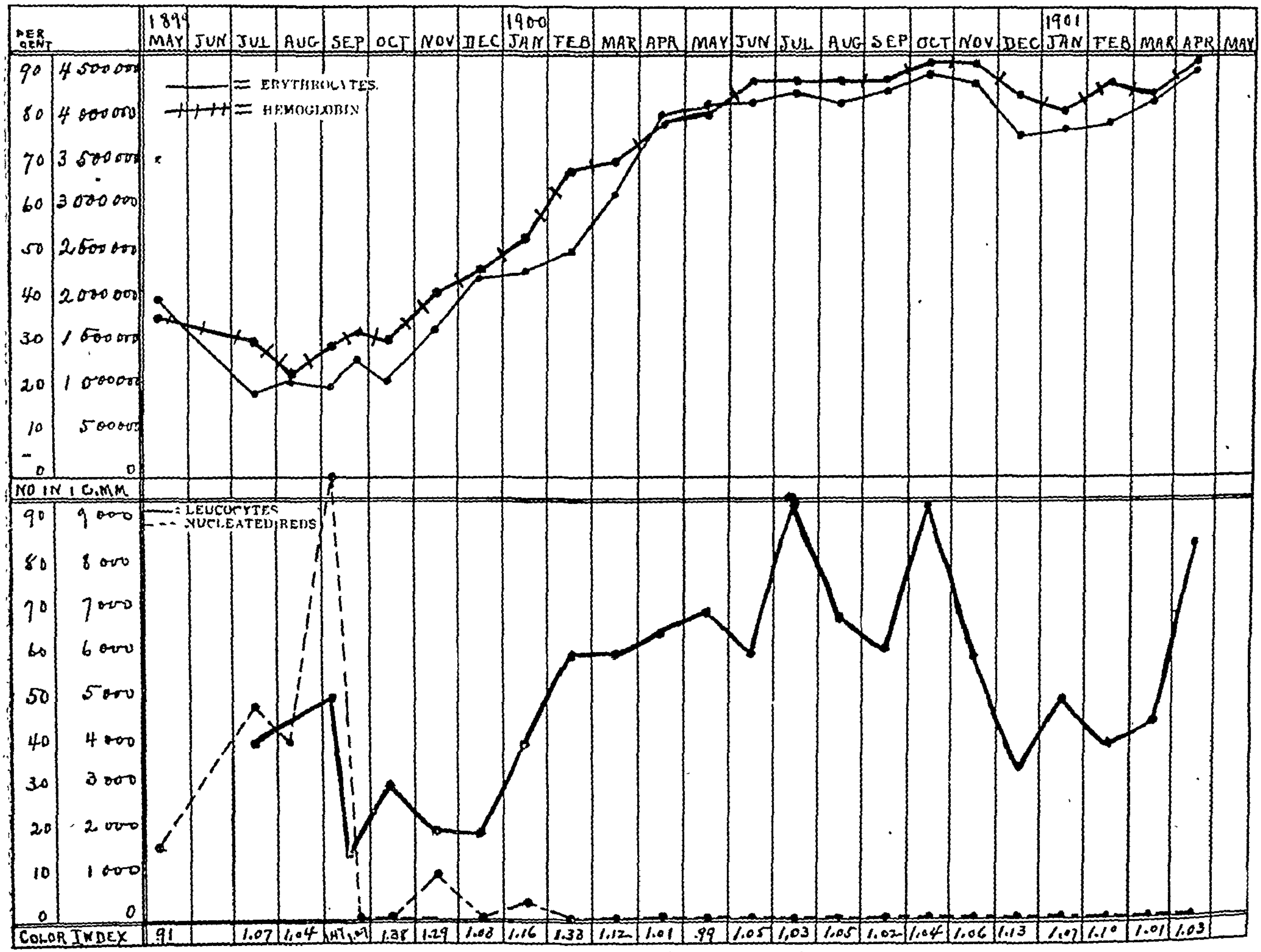

Chart 1.

These observations also demonstrate that the hematocrit is of value in giving us the corpuscular mass but is unreliable for computing the number of cells.

During the year 9 new cases of pernicious anemia have come under my personal observation and have been examined frequently enough to make the diagnosis certain in each case. Of these cases, 7 were males, and 2 females. The ages ranged from 36 to 69 years. All were very well-to-do people, and in no one was there any specific cause to be found to which the disease could be attributed. The observation noted last year, that in most of the cases reported gastro-intestinal disturbance was a common accompaniment, has been found true also in the 9 new cases. Four of the 9 new cases sought consultation for gastro-intestinal disturbance. In but one of the cases was a bad condition of the teeth and mouth found, which could in any way be a cause of the trouble. A short account of each case will be of some value to those who desire to note the clinical course of pernicious anemia.

Case 21.—Mrs. R. L. S., aged 51; married; mother of five children; came Nov. 13, 1900. Has enjoyed good health the greater part of her life. Has had falling of the womb the past twenty-nine years, but has not suffered much from pelvic disturbance. For ten years she has had gastro-intestinal fermentation; some nausea, usually in the afternoon, when overtired. There was often a sense of weight and gnawing in the epigastrium; the appetite was usually poor, the bowels constipated. During the last few months the bowels have been loose, with one or two painless, watery stools a day. One maternal aunt died of cancer; three maternal uncles died of tuberculosis.

Examination revealed nothing of importance in the chest. The abdomen was somewhat protuberant, and there was slight diastasis of the recti muscles. There was enteroptosis, the stomach lying well down in the lower quadrant of the abdomen. The liver edge was palpable two fingers' breadth below the costal arch. The spleen was not palpable. The stomach contents, one hour after a meal of lean meat, bread and tea, gave no reaction for hydrochloric or organic acids. The urine, specific gravity, 1020; no albumin, no sugar, and no sediment with the centrifuge. Blood examination, hemoglobin, 40 per cent; specific gravity, 1044; red cells, 1,648,000, and 7500 white cells per cubic millimeter. Nucleated red cells, with megaloblasts predominating, were present. Poikilocytosis and chromatophilia were marked.

An examination, April 23, 1901, showed some improvement: hemoglobin, 42 per cent; specific gravity, 1045; red cells, 2,110,000, and white cells, 5500 per cubic millimeter; five megaloblasts, and three normoblasts were estimated to be present in one cubic millimeter. The patient was subjectively better without a gain in weight, but still complained of the gastro-intestinal fermentation and slight looseness of the bowels. The stool of this patient was not examined because her home was a distant point, and a visit of a day only was made to Chicago for each examination. There was no perceptible cause for the disease to be found.

Case 22.—W. F. McC., dentist; aged 36; single; presented himself first May 31, 1897. He stated at that time that his illness began with tingling and numbness of the fingers, which later involved the feet and legs, with tenderness of the calves and the knee joints. No spontaneous pain. He had diarrhea for six weeks at the beginning of this illness; always had some gas and epigastric weight after eating. The urine was scant but normal, as he had himself examined it. In February, 1897, a competent hematologist had found the normal number of red cells, but hemoglobin much diminished. A diagnosis had been made in this case of multiple neuritis from intoxication due to digestive disturbance. An examination made at that time showed a man fairly well nourished; weight 136 pounds. The chest was negative. The liver area seemed normal. The spleen was not palpable. The urine, specific gravity, 1028; urea 1.9 per cent; alkaline reaction; phosphates in excess; no albumin; no sugar; no casts. There was tenderness along the posterior tibial nerves. The reflexes were not altered. Blood examination revealed hemoglobin, 40 per cent.; red cells, 2,300,000; white cells, not counted. No parasites were found in the blood.

On Nov. 20, 1897, patient again presented himself for examination. He had been in California for three months and was much improved in general health. He still complained of some pain along the course of the tibial nerves, and the tingling and numbness of the fingers and toes continued. Blood examination showed hemoglobin, 80 per cent; red corpuscles, 4,000,000 per cubic millimeter. The patient was not seen again until March 5, 1900, when he again presented himself. He complained of great weakness and of lessened endurance. He looked pale, and there was a yellowish tinge to the skin. The physical findings were negative, except as noted above. Blood examination, hemoglobin, 60 per cent.; 3,048,000 red cells, and 10,000 white cells. There were no nucleated cells found.

On April 2, 1900, hemoglobin was 55 per cent; red cells, 2,248,000, and white cells, 6,000 per cubic millimeter. Patient felt weaker than before, and complained of dyspnea upon exertion. Physical findings negative.

On April 28, there was a still further decline. Hemoglobin was 42½ per cent; red cells, 1,448,000, and white cells, 5000 per cubic millimeter. Nucleated red cells were found with megaloblasts predominating. The patient was continued upon

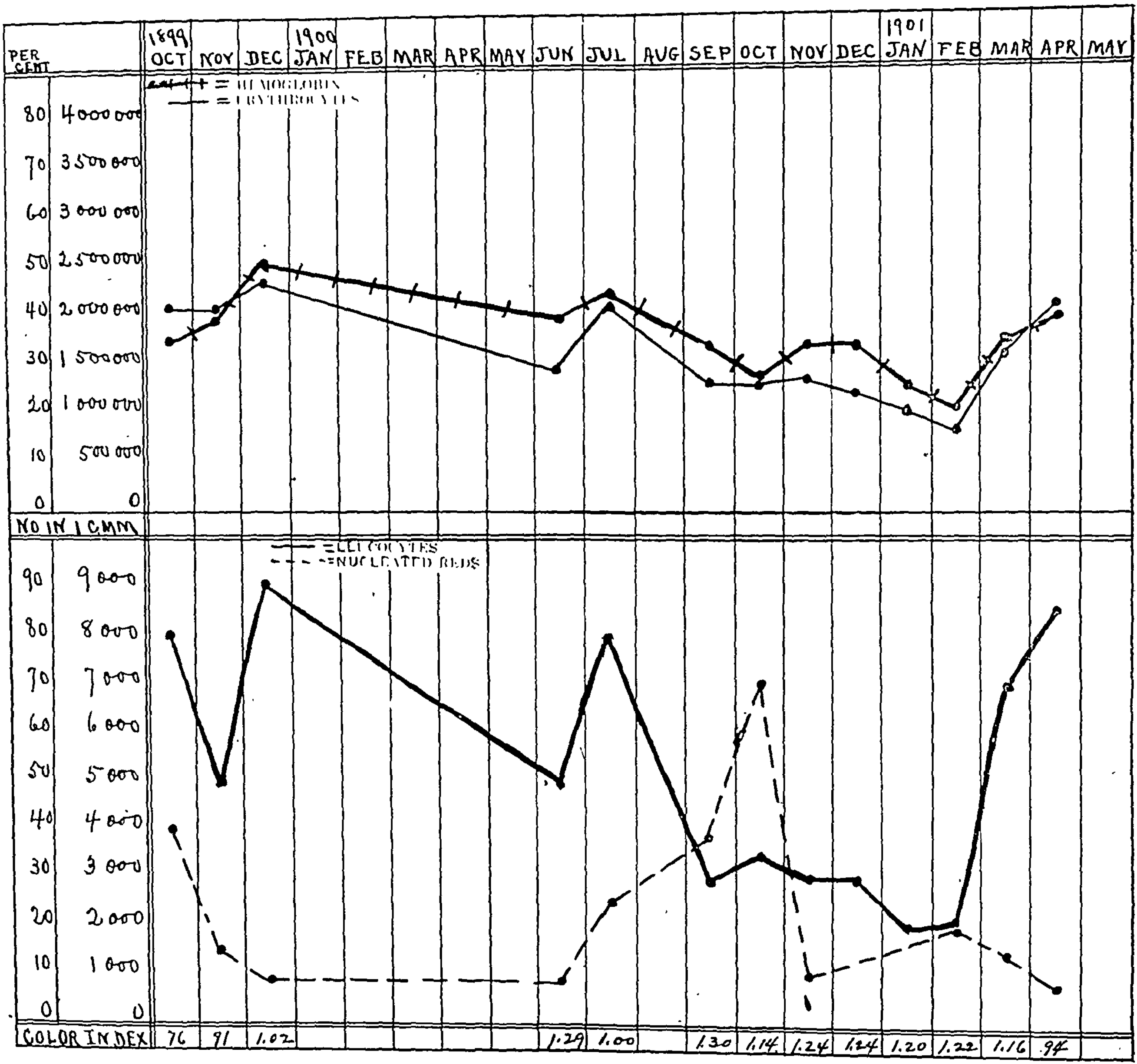

Chart 2.

restorative tonics of arsenic and iron, and advised to go into the country.

On Dec. 28, 1900, the hemoglobin was 33 per cent; specific gravity, 1039; red cells, 1,264,000, and white cells, 4400 per cubic millimeter. Normoblasts, microblasts and megaloblasts were found. Poikilocytosis and polychromatophilia were present during these latter observations, and this condition of the corpuscles, with the continued high color index and the progressive character of the disease make the diagnosis practically certain. The patient is at present living in the country, and no observation has been made since that last noted above. There was no perceptible cause for the disease to be found.

Case 23.—Mr. F. B. K., aged 53; merchant; married; American; presented himself June 29, 1900. Mother died of tuberculosis, with an associated anemia; father died of heart disease. Patient has not used tobacco or alcohol during his life, and has always been a healthy man. He has not overworked, but has lived much of the time indoors. A year ago he began to lose strength, and later lost somewhat in weight. Six months ago he and his friends noticed a pallor, and he had some dizziness and shortness of breath upon exertion. During the last two or three months there have been numbness and tingling of the extremities. His main complaint at present is weakness, with shortness of breath, and palpitation of the heart from exercise or excitement. He is restless, emotional, and faint at times. There has been swelling of the lower extremities for several weeks, especially in the latter part of the day. He has noticed some black and blue spots on the thighs recently. His appetite is variable; there is no indigestion; bowels usually constipated. There has been occasional diarrhea recently. His weight a year ago was 197 pounds; January, 1900, 165 pounds, and at present, 158 pounds. He has noticed no blood in the stool; has no epistaxis, or hemorrhage from the gums.

On examination a marked pallor, with a lemon-yellow tint, is very noticeable. The mucous membranes of the lips and mouth are yellowish pale. The teeth are good; the mouth, clean; there is some puffiness of the eyelids. The eyes are normal, including the retinæ. The pulse, small and rather rapid. There is a capillary pulse in the lips. The heart area, normal; the lungs, negative. There is a systolic bruit in the neck. The abdomen is negative; the rectum, negative. The reflexes, normal. Urine, specific gravity, 1013, acid reaction; 0.6 of 1 per cent. albumin, with a few finely granular and hyaline casts present. Blood examination. hemoglobin, 28 per cent; specific gravity, 1038; red cells, 1,006,000, and white cells, 1500 per cubic millimeter. Poikilocytosis, very marked. Many nucleated cells are found, with a preponderance of megaloblasts. Color index, very high—1.53.

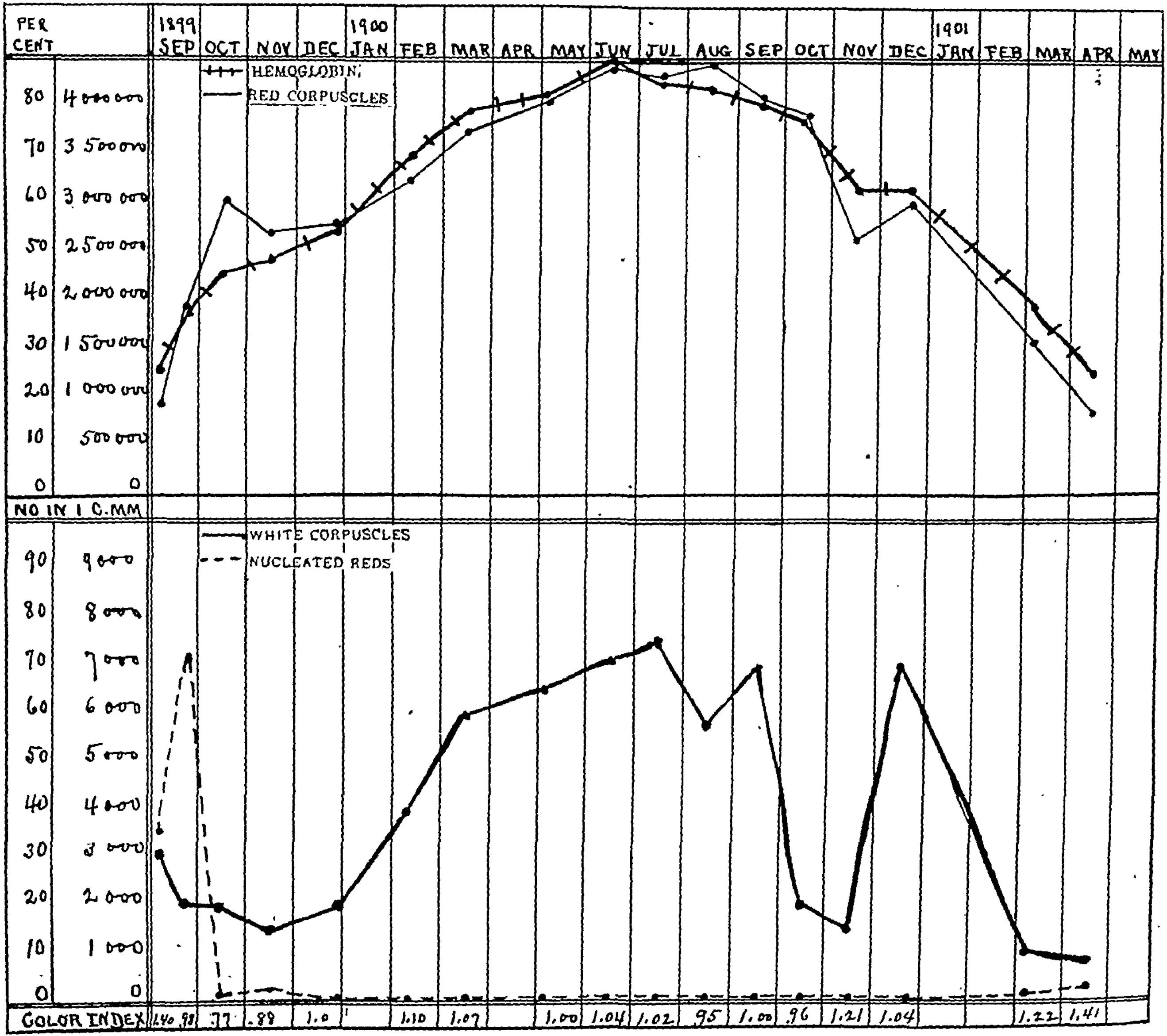

Chart 3.

A letter of recent date, from a physician, states that the patient improved for a few months, but is now becoming rapidly worse again. There was no perceptible cause for the disease to be found.

Case 24.—W. J. F.; aged 40; male; merchant; presented himself Nov. 10, 1900, with a letter from his physician, Dr. Kanne, Peoria, Illinois. His father died of blood poisoning; mother living at the age of 72. Patient gives a history of good health, except for typhoid fever, when 18. He is an active worker. Denies venereal disease. While at West Baden, Ind., September, 1898, he was taken with a severe diarrhea which lasted for about two weeks. This was accompanied by pain and slight fever. Succeeding this he was weak and debilitated, and has never been well since that time. A year ago it was noticed that his skin was pale and of a yellowish tint. There was some loss of weight at this time, with diminished strength and endurance, and noticeable dyspnea upon exertion. While at Eureka Springs, Ark., he gained fifteen pounds, and has since retained about the normal weight, 142 pounds. During the last two months he has noticed that the pallor has increased; he has lost strength; has attacks of dizziness, faintness and shortness of breath upon exertion. Slight swelling of the ankles has occurred in the latter part of the day. There has been slight headache occasionally, and there is some numbness of the toes and of the finger-tips.

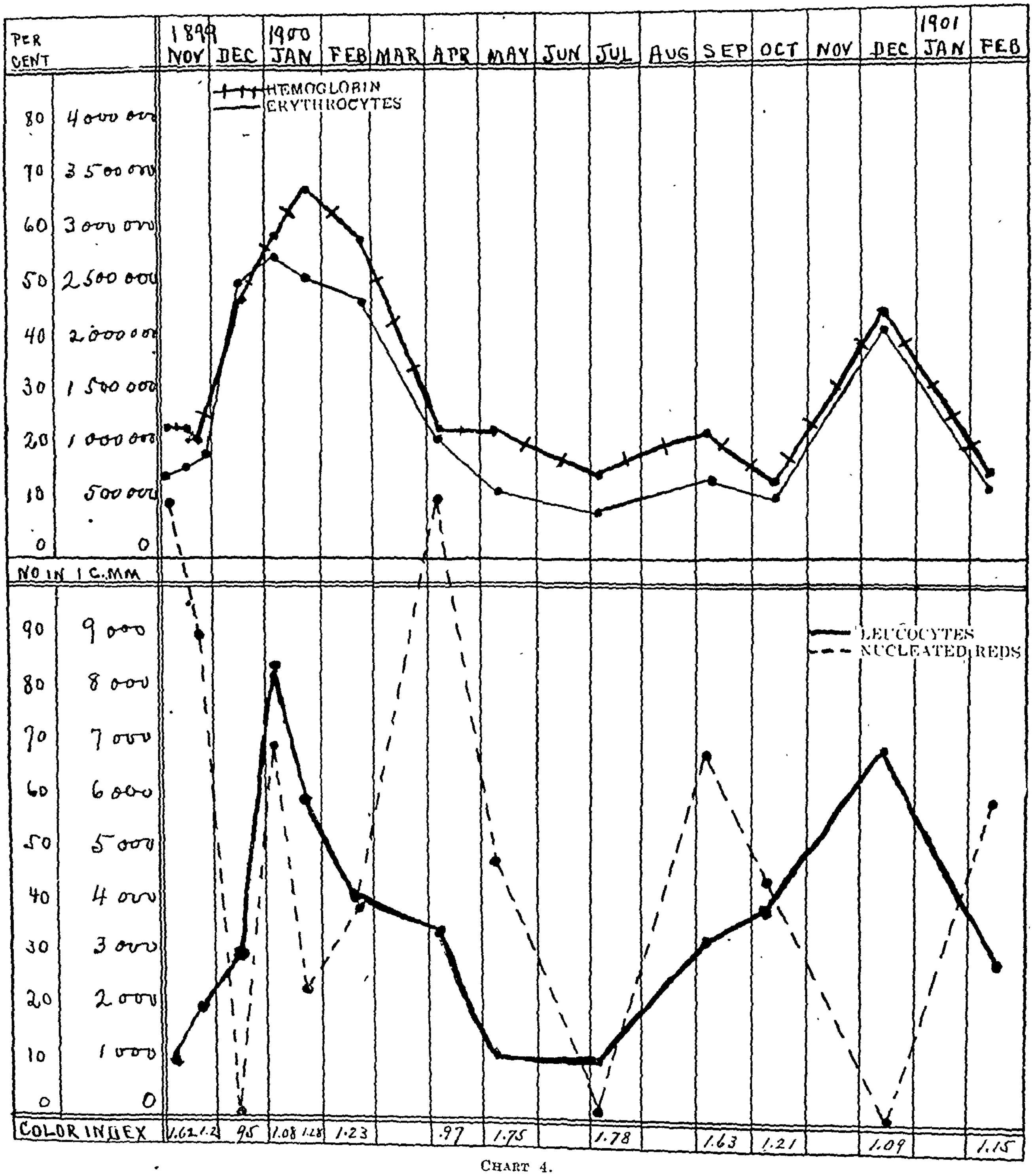

Chart 4.

Examination shows, man about normal weight for his height; skin pale, and of a lemon-yellow color. Mucous membranes of the mouth and pharynx very pale. There are some palpable glands in the superficial carotid triangles. The teeth are sound; the gums normal; the lungs negative; heart area normal; tones clear; the pulmonic second sound slightly accentuated. Liver and spleen negative. Knee jerks are active. There is an ankle clonus of slight degree present; a slight edema of the ankles. The rectum is normal; the eye grounds normal: urine, specific gravity, 1015; no albumin, no sugar, no casts. Blood examination, hemoglobin, 43 per cent; red cells, 1,512,000, and white cells, 6400 per cubic millimeter. Many nucleated cells present, with a preponderance of megaloblasts.

Many examinations of the blood had been made by Dr. Kanne, which, in the relation of the hemoglobin to the red cells, agreed in the main with the examination noted above.

A letter of recent date from Dr. Kanne states that the patient was, at the time of examination, upon a wave of decline. There was no perceptible cause for the disease to be found.

Case 25.—J. K.; aged 56; male; married; merchant; presented himself Nov. 24, 1900. Family history, negative; brothers and sisters are healthy. Patient has always been a healthy man in active business. Has used alcoholic drinks very moderately. A year ago he noticed a little numbness in the hands and feet which has since remained. Six months ago his wife noticed that he was pale, and since then there has been an increase of the pallor, with weakness, lessened endurance, shortness of breath upon exertion, and dizziness and faintness at times. The appetite has become poor, digestion disturbed by gas, with eructation, and a sense of weight and distention in the epigastrium. He has been drowsy, but at times very nervous. He has not lost in weight.

Examination shows, well nourished man, with a skin very pale and yellow; mucous membranes white. Teeth, good; lungs, negative; heart tones, normal, and heart area, not increased. The liver extends three inches below the costal arch in the mammary line. The spleen is palpable, extending two inches beyond the costal margin. The stomach and intestines are negative; the rectum, negative. There is slight edema of the ankles; the knee jerks, present and active. Urine, specific gravity, 1021; no albumin, no sugar, no casts. Examination of the blood, hemoglobin, 34 per cent.; specific gravity, 1038; red cells, 1,653,000, and white cells, 2200 per cubic millimeter. Nucleated cells were found with megaloblasts in preponderance.

Examination of the blood made Dec. 13, 1900, by Dr. Werner, of Quincy, Ill., hemoglobin, 33 per cent.; red cells, 1,626,000 and whites, 2100 per cubic millimeter, with nucleated red cells, including megaloblasts. Poikilocytosis was very marked in this case, and megaloblasts were noticeable because of marked fragmentation of the nuclei. There was no perceptible cause for the disease to be found.

Case 26.—J. E. P., aged 69; married; manufacturer; came Jan. 7, 1901. Mother died of tuberculosis; no other history of transmissible disease in the family. Patient has practically abstained from alcohol and tobacco. Had typhoid when 28. He can recall no other serious illness. Four months ago he was troubled for several weeks with nausea and dizziness, burning sensation in the stomach, with eructations of gas, and hot sensations in the throat. Six weeks ago there were nausea and faintness, with waterbrash. With this there has been progressive weakness, with loss of flesh and pallor; shortness of breath, and increasing lack of endurance. There has been some numbness and tingling in the fingers and toes. He vomited once and ejected food which had been taken eight hours before. He has never noticed blood in the stools. Has had no noticeable loss in weight.

Examination shows, rather thin man, weight 140 pounds—maximum weight 158 pounds—skin very pale and of a yellowish tint. The tongue and mouth are clean; the molars gone, but the remaining teeth sound. There is a thickening of the palpable arteries; a capillary pulse in the lips. The lungs, negative; the heart dullness appears normal; there is a soft systolic blow over the aortic area. The liver edge is felt somewhat sharp on inspiration; spleen not palpable. There is a double inguinal hernia; the rectum, negative. Urine, specific gravity, 1015; reaction acid; no albumin, no blood, no casts. Blood examination, hemoglobin, 39 per cent; specific gravity, 1043; red cells, 1,538,000, and white cells, 2500 per cubic millimeter. Many nucleated cells found, including megaloblasts.

Patient was placed on a restorative tonic treatment. On Feb. 8, 1901, a month later, blood examination gave, hemoglobin, 56 per cent.; specific gravity, 1050; reds, 3,194,000, and whites, 5000 per cubic millimeter. Nucleated cells were present, and poikilocytosis marked. This noticeable improvement of the blood was accompanied with a corresponding subjective improvement.

On March 26, 1901, blood examination showed 78 per cent. hemoglobin; specific gravity, 1056; red cells, 3,768,000, and white cells, 6000 per cubic millimeter. Patient had gained in strength; his digestive power was good, and in every way he felt himself almost well. The restorative tonic treatment was continued.

A letter from the patient, written about the middle of April, states that he is not now so well; that he suffers from weakness, shortness of breath upon exertion, and that his color is not so good as it was when he was last examined.

The improvement wave in this case occurred coincidently with the restorative tonic treatment, and upon the face of it would look as though the treatment had something to do with the great improvement; but the observation made in the past with other cases has been so contradictory, that one can not but feel that improvement may take place in these cases without the aid of restorative tonics, and that, in some instances at least, remedies have received undeserved credit for good in pernicious anemia, when in all probability the improvement was due to the natural course of the disease. There was no perceptible cause for the disease to be found.

Case 28.—Mr. W., aged 60; married; lawyer; presented himself Sept. 23, 1900. He states that his previous health has been good, but has lived a life of care and anxiety. The last few years he has been at work on a patent which he has felt was worth a fortune, and recently arrangements were made for its adoption by a syndicate which brought him increasing care and anxiety, so that he has not had much rest, day or night. Three months ago he noticed that he was not as strong as usual, and that his endurance was less. He had shortness of breath upon exertion, and there was considerable palpitation of the heart. The extremities became cold, especially when excited, and there was tingling of the finger-tips and toes. His digestion was poor, and there was much fermentation, with eructations of gas. The bowels were usually constipated. Had noticed but little loss of flesh. His friends noticed that he was pale.

Examination, well-nourished man, six feet in height, skin very pale, and of a lemon-yellow tint. Mucous membranes of the mouth, pale; teeth in fairly good condition; gums healthy; lungs negative; heart area normal. A murmur was heard in the neck when the patient was lying down, and a soft systolic murmur was heard at the base and apex of the heart. The liver was apparently normal in size; spleen not palpable; rectum negative; urine negative. Blood examination, hemoglobin, 22 per cent; red cells, 1,388,000; and white cells, 6000, per cubic millimeter. There were many nucleated red cells, megaloblasts predominating three to one over the normoblasts. There was marked poikilocytosis. Several other blood examinations were made, which confirmed the primary examination.

Patient continued under observation for about two weeks, remaining practically in the same state, but with the addition of an edema of the lower extremities gradually increasing in severity. He was obliged to go East at this time, and died suddenly in Boston, on November 7. An autopsy was not performed. There was no perceptible cause for the disease to be found.

(To be continued.)

Infectious Diseases in South America.—This article was prepared at the request of the committee of organization of the recent Latin-American Congress by Dr. E. Coni. It shows what has been accomplished by sanitary measures in South America. The principal cities have materially reduced the mortality by their enforcement of compulsory declaration, isolation and disinfection of infectious diseases. Buenos Ayres and Montevideo have an abundance of good potable water, good drainage and a good sanitary organization and consequently their mortality has been very much reduced, the latter city enjoying the distinction of being the healthiest in South America, and Rio Janeiro that of being the unhealthiest, as the drinking water and drainage are still insufficient. Santiago de Chili, in spite of its mild, equable climate, has a frightful death-rate, only to be diminished by sanitation on an extensive scale. Coni urges that the magnificent results attained in Buenos Ayres by the compulsory declaration and disinfection of tuberculosis, should inspire Brazil, Chili and Peru to follow her example. Peru has no public service of disinfection nor modern isolation hospitals. San Paulo leads all other Brazilian cities in its sanitary institutions and low death-rate.—*Revista Med. d. Uruguay.*

THE VALUE OF CONSERVATIVE TREATMENT OF THE UTERINE APPENDAGES.

AS OBSERVED IN THE LATER RESULTS OF RESECTION OF OVARIES AND OPENING OF TUBES IN NINETY-SEVEN CASES.*

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CHICAGO.

This work was commenced by the lamented Carl Schroeder, who published, in 1884, five cases of resection of an ovary to preserve ovulation and menstruation, in cases of bilateral multiple cystic degeneration of Graafian follicles. He advocated this treatment only for patients who are neither near the menopause nor already mothers of a number of children, and limited it to cases where the parts retained are safely healthy and no papillomata or other suspicions of malignancy are anywhere found. Aug. Martin reported 10 cases in 1889, 11 in 1891 and 6 more in 1893. Of these cases, 24 were subsequently available for longer observation; 8 of them became pregnant and 2 had recurrent disease. Out of 40 cases of salpingostomy, 1 became pregnant.

In 1891, W. H. Polk reported 10 cases of salpingostomy and 9 of section of ovaries. Of the total number, 15 were afterward examined and found to be successful in from 75 to 100 per cent. In 1893, this treatment was advocated by v. Winckel, Hoffmeier, Schatz, Zweifel, and P. Mueller, who suggested the destruction of cystic follicles by the thermocautery; and it was opposed by Hegar, Leopold and Fritsch. At that time and in 1895—by Donnett—Pozzi reported 23 cases of resection and ignipuncture of ovaries, of which 19 were successful, 4 of these becoming pregnant, and 3 required a second operation. He did not practice salpingostomy. In 6 cases of bilateral cystic ovarian neoplasms, 4 being dermoids, F. Matthaei, Berlin, in 1895, had performed resection of one ovary, and 5 of the patients subsequently bore children. In 1900, Burrage reported 60 subjective cures out of 85 total traced cases of salpingostomy and resection of ovaries, after an observation of at least a year. In 41 of these there had been pus somewhere in the adnexæ at the time of operation. An anatomical cure was achieved in 33 out of 57 cases actually examined. Fifteen pregnancies had occurred and in 5 cases a secondary operation was advised. A. P. Dudley, in 1898, had observed 14 cases of pregnancy in 88 cases of such conservative treatment and he says that in only one case among all those examined, and that was gonorrheal, was he able to find a return of inflammation in the parts that were bimanually palpable. C. Martin, Birmingham, and R. Gersuny, Vienna, favor this mode of treatment in follicle cysts and benign neoplasms of ovaries, after a more limited experience with it. A. Maximo, Russia, has demonstrated the fact that not merely the germinal epithelium on the surface of an ovary does multiply mitotically and cover a defect, but that the deeper ovarian tissues also regenerate themselves and increase. He operated on 40 rabbits and 2 guinea-pigs and made exact histologic studies of the tissues involved, obtained at the death of the animals in from 5 hours to 80 days.

Some unfavorable results have been recorded, as follows: H. C. Coe reports 8 cases in which it was not satisfactory, because either the disorder required a second operation, or because it continued or recurred, or the artificial menopause was not averted, but merely delayed a little. The case reported by L. Fischer, Vienna, and the 4 cases by Waldstein at the Schauta clinic, can not fairly be counted, owing to the fact that in these cases cysts subsequently developed from diseased parts of ovaries, involuntarily left behind in efforts at total extirpation of the parts for severe septic disorganization, only because the parts retained were beyond the reach and inspection, if not the knowledge, of the operators via the vaginal route, and were not designedly selected and reconstructed, as resection implies. This treatment is applicable mostly to ovaries that have undergone cystic degeneration of Graafian follicles and corpora lutea, which results in some cases as a sequel to earlier systemic infectious diseases—exanthemata, diphtheria, typhoid, etc. In other instances they partake of the nature of retention cysts, the follicles having been prevented from rupturing and from discharging their contents normally, owing to inflammatory thickening of their walls and of the tunica albuginea. But very often the condition is that of edema in which the ova die and is, therefore, called a hydrops of the follicles by some; this condition arises from an impeded venous circulation, i. e., a varicose condition in the ovarian circulation, such as most frequently results from descensus (prolapse) of the ovary, either alone, or more frequently, in conjunction with retroversion of the uterus.

The pathologic nature and gravity of these cystic follicles, varying in size from a pigeon's egg to a small hen's egg, has been well established by the findings of Virchow, Klob, Orth, Ziegler and others, and their capacity to cause suffering is well understood by unbiased, practical gynecologists of real experience, who have neutrally observed a larger number of such cases personally for a longer period of time and have exactly and repeatedly read their pelvic status bimanually, both before and after surgical or other mechanical relief of the condition was instituted. Ovaries with such cystic follicles cause much more local and also reflex neuralgic pain than arises from ovaries, the seat of actual neoplasms (cystomata), which are of larger size than the inflammatory or degenerate follicle cysts, but not yet large enough to mechanically encroach upon the neighboring organs. Such ovarian tumors frequently cause no symptoms at all in the beginning and are then only incidentally discovered. Among the ovarian neoplasms, dermoid and parovarian cysts have little or no tendency to malignancy and in their removal the retention of as much as possible of normal ovarian tissue, is both a safe procedure and a paramount requirement. More care is required in the selection of cases for the conservation of ovarian particles in cases of glandular ovarian cystomata—true ovarian cysts. A number of operators specify that they must be non-proliferating, must not bear any surface papillomata and that there must be no suspicion of malignant developments anywhere in the patient. A detailed report of several cases of this kind with others and their subsequent condition will be given elsewhere.

In view of the extreme value of this conservative treatment, if it be successful, and because there still are many who doubt its success, I have undertaken the considerable task of finding out the subjective and anatomic condition of all patients possible on whom I have performed such operations during the last three and one-third years, and who have been observed an average period of nearly two years after operation. This I fortunately succeeded in doing in 97 out of 108 cases. Of the number, 80 were actually examined by myself or other physicians, and in 17 cases an accurate and complete written statement by the patient, in answer to specific questions, was accepted. Of the entire number, 9 were treated by anterior median vaginal celiotomy, 32 by median ventral celiotomy, and 56 by bilateral inguinal celiotomy via the dilated internal inguinal rings, in conjunction with a thorough Alexander operation. Naturally resection of ovaries and salpingostomy are practically always auxiliary procedures to other operations of equal, and usually, greater importance, like the removal of neoplasms or of parts of these organs that have been completely disorganized by inflammatory processes, or the rectification of complicated displacements and of parturient injuries. The nature of all these allied indications taken together and the question of future fecundity in each case, determine the choice of the route for operation. The vaginal route, in patients who are intended or expected to retain a capacity for conception, is best limited to cases that have no displacement of the uterus to be cured, likewise no large neoplasms and no considerable purulent accumulations or exudates in or about the organs, except parametritic abscesses, which should be drained into the vagina. This natural and severe limitation of vaginal celiotomy in such conservative cases is wise also, because however favorable this route is for extirpation of parts or all of the organs, it is not auspicious for conservative work or reconstruction of the adnexæ, for when they are normally located, too much violence is done to their more important lateral supports in dragging them downward and inward into the narrow median opening below, sufficiently to do them any good. Even then, delicate resection and accurate plastic coaptations—the most ideal surgery on ovaries—is usually out of the question and thermocauterization must be used. Moreover, when an ovary is already so much prolapsed as to be readily accessible, its displacement can not be remedied via the vagina, and resection or cauterization of it then does little and only temporary good.

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* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee of the Section: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

Ventral celiotomy I choose in all cases of solid or cystic tumors of the internal generative organs that do not require removal of the uterus and are not small and uncomplicated by adhesions or septic appendages; likewise for cases in which inflammatory processes have caused extremely firm or extensive fixation of the uterus and appendages, or have left pus, or its equivalent, probably present in or about them.

The third class comprises that large class of patients who are not near their menopause and who have neither tumors nor septic accumulations, but who have retroversions or retroversioflexions of the uterus that are complicated either by adhesions or by degenerate conditions of the appendages—the result of inflammatory processes that have run their course and have died out, or of long-standing embarrassment of the venous circulation incident to the displacement. If patients with such comparatively minor lesions are operated on at all, it should be with a practical assurance that their displacement will be cured permanently and not merely up to the time of their next childbirth, and also that parturition will not be complicated by the results of the operation. This crucial requirement, by the writer named "the double test of pregnancy," has so far been quite uniformly achieved by the Alexander operation only. Furthermore, as the internal inguinal ring is fortunately directly in front of, and near to, the normal location of the ovary and ampulla of the tube on each side, fixations of the retroverted uterus and of the adnexæ can be relieved quite well by means of an index finger introduced through each Alexander wound, somewhat dilated; and these delicate organs can be led into these openings more easily and naturally than into any other opening that can be made in the abdomen or pelvis, and they can there be reconstructed and relieved of deleterious parts with the greatest facility. For these cogent reasons, this combination of intra-pelvic manipulation by touch alone, with the Alexander operation is the best procedure for the patient in the class of cases here considered.

The effect of the thermocautery is not precise and is not limited in its extent. Its destructive effect is too great in so small and delicate an organ as the ovary, and the cellular infiltration that occurs beyond the line of demarcation between the dead and living tissue, must induce more of a cicatricial condition than is occasioned by an aseptic plastic operation. In several cases I have observed a temporary, but distressing, amenorrhea after ignipuncture of an only ovary. But it is to be preferred when the organ is not sufficiently accessible for an exact resection, which is the rule via the vagina, and also, when a normal degree of asepsis is doubted in the ovary itself or its tube, or when pus has been encountered during the operation in such a way as is likely to contaminate the subsequent steps, or when fine, perfectly sterile and readily absorbable suture material is not at hand to use in resection.

Resection of ovaries, to be a thankful procedure and not to be followed frequently by a chronic tender or painful condition of the organs, must be done with the observance of the highest degree of surgical cleanliness. The use of sterile rubber gloves by all who come in contact with the wound, sponges, instruments and suture material, in addition to all the antiseptic treatment of the hands commonly in vogue without gloves, has materially enhanced the success of this more ideal gynecologic surgery in my experience.

As to the technic of resection of ovaries, single or isolated cysts bulging forth from its surface are removed by cutting away their projecting portion, peeling or scraping out the lining membrane from the remainder and closing the resulting wound by continuous sutures of fine catgut, after the edges have been trimmed, if necessary. Very hard and contracted, cicatricial parts are occasionally exsected, forming a V-shaped wound which is closed in the same manner. Multiple cysts near each other, especially when more deeply seated, are best opened by a straight or curved incision on the free border of the ovary and extending usually not more than halfway through it. By this incision, or from its surfaces all follicle cysts of 1 cm. or more in size are opened, their lining is peeled or scraped out and then the entire wound is closed, after its surfaces have been coapted and some ragged edges have been trimmed, by means of two tiers of continuous sutures of fine catgut, as follows: in 1, the sutures go to or beneath the bottom of the wound, in order to control the bleeding; in 2, the edges are merely coapted and it terminates in a knot with the original end at the point of beginning. Thus a perfect plastic result is gained with the introduction of the least possible amount of foreign substance, i. e., suture material; and that *introduced* is of a very absorbable nature. The catgut is simply hardened in formalin and sterilized by boiling, but never chromicized; the needles are fine, round, noncutting and have a full curve.

A tube that contains pus, even if this be no longer virulent, should be removed, because its lining is too much disorganized to functionate. But in cases of some such, smaller, closed pus-tubes, the ovary corresponding to it or a part of it, can be saved.

When an ovary or a part of it is free or can be liberated and saved, with or without resection, and its tube is closed and but little distended, the latter should be walled off with gauze, opened and its contents, if any, milked out. If these are not purulent nor tubercular disease suspected, the opening in the free end of the tube can be enlarged by a longitudinal incision of about 1 cm. and its mucous lining turned out over the wound edges and stitched to the outer coats to secure a permanent opening. When the ampulla is too disorganized it may be amputated and a salpingostomy done on the tube stump.

The principles and methods here stated have been practiced by me, with gradually growing conservatism, for over five years and their merits may be partly judged from the following preliminary statement of results of *cases, the details of which* will be tabulated in a larger collection on another occasion. The first section comprises 9 cases of vaginal celiotomy for inflammatory changes of moderate grade, with no pus. Of these, 8 were married women and parous, each of whom had one ovary and tube removed and the remaining ovary treated with the thermocautery, in addition to the usual *operations* for prolapse or retroversion or laceration of the cervix and perineum. The one maiden had both ovaries resected, and she is one of the two decided failures. Two others are not disabled, but have pain of variable intensity and frequency. Only 5 of this vag*inal class are wholly well in these parts.*

The category of median ventral celiotomy comprises 32 cases that were examined after an average period of twenty-four months after operation; 23 were parous, and 24 were married. In 3 of them, restoration or *reconstruction* of one or both ovaries or of one tube was done with most happy results, in connection with *removal* of bilateral cystic ovarian neoplasms, varying in size from an orange to a child's head. Twenty-nine of them presented results of inflammatory processes of a severer grade than either of the other two classes; 15 of them *showing pus* during the operation. Among the total number in this category, the thermocautery was used upon the only remaining ovary in 8 pus *cases.* Salpingostomy was done 6 times. Suspension of the ovary and tube on one or both sides in 8 cases. Plastic resection of one ovary was made 20 times and of both ovaries in 2 cases. In 27 cases or about 84 *per cent.* a subjective cure, and, as *far as examined*, also an anatomical cure was effected. Four other cases, 12.50 per cent., can work regularly, but have pain frequently, which is probably due in part to the resected ovaries. In one instance only did cysts reform and require a second operation.

The third *class of* 56 *cases* treated by bilateral inguinal celiotomy, presented markedly pathologic retroversions, complicated in many instances by adhesions and in all cases by a degenerated or disorganized condition of the adnexæ, which required reconstruction of some parts in all and removal of other parts in most of them, in conjunction with a very thorough shortening of the round ligaments and usually also plastic operations upon the cervix or perineum, or both. Salpingostomy among these was done only once. Suspension of an ovary and ampulla of tube 9 times. In 40 cases one ovary—usually the only remaining one—was resected. In one case one ovary was resected and the other cauterized. In 15, both ovaries were resected. Average period of observation of all these cases was 23.20 months. Forty-eight of them were examined by myself or other physicians, and of 8 cases a complete and explicit statement in writing was accepted. In 49, or 87.50 per cent., of them the parts here considered were found entirely well, although in several of these it took from three to six months after operation for this recovery to develop. Five other cases are never wholly disabled, but have pains frequently which may be due to the resected ovaries. A subjective failure occurred in one hysteric and neurasthenic case and also one anatomical failure in another where larger follicle cysts recurred in an ovary.

During the average combined period of observation of a little less than two years, pregnancy supervened in 1 of the vaginal and in 1 of the ventral and in 8 of the inguinal cases; 7 of these matured and ended naturally. Two confessed to having abortion induced by "instruments in the womb," and one aborted without known cause.

The relative value of the routes for operation is shown in part by the observation that an entire cure of the former disorder was effected only 5 times out of 9 via the vagina—too small a number for conclusions in percentage. On the other hand, 84 per cent. of the ventral, and 87.50 per cent. of the inguinal cases became wholly well. The value of these conservative operations is better appreciated in view of the following facts:

1. It will be difficult for any operator, from his entire experience, to find 100 consecutive cases in which he has removed both ovaries, with or without the uterus, where approximately 85 per cent. will be found to be as free from pain and from distressing nervous and circulatory disorders, and to enjoy as good general health as that proportion of cases here mentioned.

2. In a majority of the cases of resection of an ovary herein reported, it was the single remaining ovary in each case, and, aside from resection, removal of that only ovary would have been *the indispensable* alternative. In that case these women would not merely have lost their sexual functions to a large extent, which contribute largely to the mental and physical equilibrium of most human beings, but they would also be denied *the opportunity, if not the legal right,* to contract marriage in the future, and to receive the care, protection and legal perquisites connected therewith.

3. *Pregnancy occurred* in 10 per cent. of the cases, and in the the absence of wilful pernicious interference its normal termination was substantially assured in *all except one case.*

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DISCUSSION.

Dr. J. Wesley Bovee, Washington, D. C.—There is no question but what much can be done in conservative surgery of the ovary, less in conservative surgery of the tubes, if we mean by conservatism a retention of a portion of the organ. I do not believe, except in exceptional cases, that it is advisable to leave a portion of a tube when another portion must be removed. My understanding of the term conservatism is primarily the health of the individual, secondarily, that of function, and thirdly, mental impressions. It seems to me that an ovary bound down by adhesions from tubal disease is usually diseased throughout, and that these organs that we resect and suture again become adherent. When you set up traumatism along the wall of the ovary you find the omentum rushing there to protect it. I have often opened the abdomen and found adhesions where I had previously done nothing but simply punctured, with a thin narrow-bladed bistoury, simple follicular cysts in the ovary. When I find these ovaries I extirpate them. These patients have heat flushes and nervous storms for some time afterward, but I have not done this work long enough to say how long it will continue, although I have seen it last ten years and can not account for it in any other way. We can not always tell from the naked-eye appearance of an ovary what its condition is, and in many organs we find a lack of development, not a sclerocystic change, but one resembling a walled-off trouble which remains as long as the ovary remains. I believe in conserving as much as possible, and I believe in making the mind of the patient easy, but I do not believe in conserving structures that are likely to cause trouble in the future and that can be removed without danger to life, except in those cases where there is an expressed desire on the part of the woman as to the possibility of future pregnancy.

Dr. Joseph Eastman, Indianapolis—Dr. Goldspohn speaks of anterior colpotomy as a means of reaching diseased ovaries and tubes, but that it leaves a weak spot in the vagina; I believe that is a valid objection to doing this conservative work. In cases where we are certain the woman is past the child-bearing period, or where the operation necessitates the production of sterility, I am in the habit of bringing the uterus into an anteverted position, using that as a splint to prevent a cystocele. It is a valuable substitute in cases of extreme prolapse. I was much pleased with the Doctor's idea of going through the inguinal canal in preference to doing an anterior colpotomy. His work is certainly in the right direction. I agree with him that we should use suture material that does not remain so long. It seems to be the trend now to get material that will be absorbed rapidly, within a week or ten days at most.

I was also pleased with the Doctor's remark in regard to asepsis. We talk about it, but it is only the few and not the many who are capable of procuring aseptic wounds. He suggests the use of rubber gloves to make sure of aseptic hands. I accept that, but at the same time it must not be understood that I do so to the exclusion of thorough sterilization of the hand before the gloves are put on.

I take issue with Dr. Bovée in regard to saving some of these ovaries. A stormy menstruation is better than no menstruation. The retention of a sufficient amount of ovarian tissue to maintain sexual impulse is of vital importance to the patient. I have seen hundreds of these physical wrecks where the ovaries and tubes have been removed. These are questions which we should take home to the heart. True conservatism is that which seeks to preserve as much of an organ as possible. It is better to make a second or even a third operation and even to have a stormy menstruation than to deprive the woman of her sexual impulse.

Dr. Bernard Cohen, Buffalo—It is now sixteen years since surgeons began removing ovaries and tubes promiscuously. About five years ago they became conservative. We must not only preserve the patient's life, but also make her useful to her family. When the surgeon has opened the abdomen he must do all he can so as not to jeopardize her life again by a secondary operation. Many women pass a miserable existence or die because they will not submit to a second operation.

The use of gloves is becoming quite common through the East and we seldom see pus where we have absolute asepsis. It can be carried on in a small town as well as in a large city. In most cases where a small amount of the ovary is left, a degenerative process starts in the remaining portion soon afterwards. In watching the cases since 1896, when gynecologists became conservative, I noticed that many patients were having secondary operations, in 35 per cent. of which pus was found. This could only come through degeneration. When the abdomen is opened we had better remove everything found necessary without regard to subsequent nervous phenomena, or to the fact that if we leave a part of a diseased ovary she may have a child, or what is more likely, a secondary operation.

Anterior fixation through the inguinal ring is new to me. Dr. Frederick of Buffalo pulls the round ligament up, pushes a hole through the belly muscles, freshening the edges and stitching the ligaments on the muscles. It is a simple operation and the patients recover very rapidly and have little pain. The operation is too new to give any definite results, and should only be used after the child-bearing period.

Dr. W. O. Henry, Omaha—I am sorry the Doctor did not define what he means by conservative surgery. As I understand it, it is the removal of all organs or parts hopelessly diseased, the saving of such as we have reason to believe will be restored to health or will not further menace health. If that be a correct definition, then I am in favor of conservative surgery. It is a mistake to remove both ovaries and tubes if only one of them is diseased. If we endeavor to save a diseased part it is but right and fair for us to explain to that patient that possibly another operation will be required later on. Although secondary operations are not usually required in these cases, I hold it is better to have to do a second or even a third operation occasionally than to do such complete work in every case.

A lady, childless, very anxious to bear children, a constant sufferer, came under my observation for treatment. We found large ovaries, adherent, dropping down into the cul-de-sac; the tubes were enlarged, and I informed her that one ovary and tube would have to be removed, and that possibly I could save the other; I explained the possibility of a second operation. She consented and I did the operation. I removed the tube, the end of which was sealed over by adhesions, and also one ovary. I split the top of the remaining tube, keeping it open by sewing mucous and peritoneal membranes together. The woman became well and a year afterward bore a child. I hold that even if I have to remove the other ovary the woman has profited immensely by conservative work. So, I say, let us do conservative work, but let us explain to our patients what that means. If they want you to take out everything that is diseased or likely to be, then go ahead and do a radical operation. If you fully explain to patients most of them will say: "Give me a chance; if you can save my menstrual and child-bearing functions, do so."

Dr. Goldspohn, in reply—The removal of these organs when not decidedly diseased reminds me of the attitude of the general surgeon of 40 years ago; then he would amputate every leg that had a diseased joint. When he found out that the joint could be resected, he saved the leg. The gynecologist who is simply a surgeon does about the same kind of work as the general surgeon of that day. It is not right and I have very much at heart the sentiment expressed by Dr. Eastman that we should state the case fairly to our patients, explain to them what may be the result on the one hand and the chances on the other, and they will always decide upon a conservative operation. It means so much socially to young women whether they menstruate or not; not so much whether they can conceive. That is a mere secondary matter. You stop the menstrual function of a young female and who is going to marry her, and what does that mean in the future welfare of the individual? Would not some of them just as soon give up life?

I failed to state that there were 10 cases of pregnancy in the 97 cases of resected ovaries. One in the 9 vaginal cases, one in the 32 cases of ventral median section, and 8 cases after the inguinal operation. All of them, except three of the inguinal, went to term. In two of the inguinal cases abortions were induced.

An instance of what can happen from a little piece of ovary that will turn the tide with the patient's opinion of herself and the doctor's services enormously, is illustrated by the following case: A young woman, 19 years old, had pyosalpinx on one side and a cirrhotic, indurated ovary on the other, with a normal tube. After putting her to bed for a month, and giving her most approved medical treatment to avoid operation, it became evident, however, that an operation was necessary. The organs on one side were removed and the most indurated part of the other ovary was exsected, leaving a little stump of ovary. The presence of pus in the case led me to choose the thermocautery in place of resection. In that case there followed amenorrhea for a year and a half and then a year in which she menstruated a few times, then she became pregnant and had a fine boy. As much as they blamed the doctor previously they are now glad that a radical operation had not been performed.

Ventral suspension of the uterus by means of the round ligaments was first done by Carl Beck of New York, then successively by Ferguson of Chicago and Gilliam of Columbus, Ohio. In cases where an Alexander can not be done, that is the next best operation for retroversion, but it is not an ideal procedure, because the round ligaments were never intended to hang the uterus upon. We must wait until pregnancy sets in to see whether the uterus will remain in normal position after pregnancy, as it does after Alexander operations.

PUERPERAL ECLAMPSIA.*

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In selecting this subject for a brief paper I do so because it is a condition that can not be discussed too often. It is only necessary to glance over the literature to satisfy one that the etiology of puerperal eclampsia is still a mooted question. Lever (from the reports of the Guy Hospital, in 1843) was the first to trace any connection between eclamptic attacks and the excretion of albuminous urine. After it became known that the urine of patients suffering from convulsions contained albumin, and they had some of the other symptoms of uremia, it was very generally considered that these patients were suffering from some form of Bright's disease. Frerichs' theory that uremia is caused from the decomposition of retained urea into carbonate of ammonia, and Traube's theory that uremia is produced in hydremic persons by a sudden increased tension of the aorta, and cerebral edema and anemia, were for a time sufficient to explain these attacks of eclampsia; but as more labor was bestowed in investigating the cause, these ideas were considered of very little value. The writings of Rosenstein, Litzman, and Rayer were valuable contributions. Many writers emphasized mechanical interference with the venous circulation in the abdomen; they claimed that the enlarged uterus, in the later months of pregnancy, occasionally caused pressure obstructing the venous circulation, favoring congestion of the kidneys and the abdominal organs, hence causing obstructive hyperemia of kidneys. Rosenstein was one of the believers in this theory. He says: "The pressure, which under conditions that are not known to us, the enlarged uterus in the later months of pregnancy occasionally exerts upon the vessels of the abdominal organs and especially upon the renal veins, obstructs the circulation of the venous blood; in this way obstructive congestion of the kidneys as well as from other abdominal glands is produced." It would seem strange if there was anything in this theory, that tumors, especially of the fibrous nature, would not cause eclampsia; but they do not.

It has been said that eclampsia was due to pressure exerted upon the ureters, if such were true one would expect to find hydronephrosis, but none has been found in cases where autopsy was held. Many of the clinical aspects of eclampsia are closely associated with the symptoms of uremia, and some investigators were of the opinion that they are identical. In an able article upon this subject, E. P. Davis, of Philadelphia, says: "An effort to positively identify eclampsia with uremia has failed, for many uremics die without eclampsia, and many of the eclamptics do not present the pathological signs of uremia."

Since so much has been done in bacteriology, many investigators naturally turned to some form of germ as a cause of eclampsia. Bacteria have been isolated, which were supposed to be the cause of the eclampsia. Doleris Pouey, and others worked carefully in this line, and were able to say[1] from their investigations: "In all cases in which albuminuric eclampsia was observed the urine contained micro-organisms rendered evident by culture." It has since been studied by pathologists, and the bacteria are not alone in eclampsia, but in pregnant women who are well. When the blood of the eclamptic patient is examined, micro-organisms are rarely found, and from observations one can find no positive proof that any one germ has been isolated which will cause eclampsia.

Frerichs was the first to call special attention to alterations of the blood produced by pregnancy as a cause of eclampsia. It is a known fact that the blood of pregnant women is usually more watery and richer in fibrin than normal. The albumin and red corpuscles are diminished and the white corpuscles more numerous. Frerichs ascribed this impoverishment of maternal blood to drain of nutritive material required for the nourishment and development of the fetus. Some writers claimed some deleterious substance was contained in the blood of pregnant women which was capable of causing disease of the kidneys and at the same time convulsions; these substances have not yet been found.

Chamberlant,[2] working under the direction of Tannier, in 1892, performed a series of experiments on the blood of eclamptic women, and says: "1. Pregnancy tends to the retention of poisons in the body, for the urine of pregnant women is less poisonous than normal. 2. The albumin of eclampsia is probably secondary, following the direct action of the poison on the renal epithelial cells in the effort of elimination.

I think at present it is the universal opinion among the more modern investigators that eclampsia is due to a profound toxemia, and the origin of this toxemia is still unknown. Some claim it originates from defective eliminative action upon the part of the kidneys, liver, lungs and intestines, the exact agent of which as yet has not been isolated. E. P. Davis[3] says: "The diminution in the amount of urea excreted indicates that toxins are retained. Less than 1.5 per cent. demand attention on the part of the physician." The clinical aspect of these cases are sometimes extremely obscure, very little warning being given the physician of the approaching attack until the patient is in the midst of one of the most dangerous conditions that one can expect to find. We are prone to neglect the care of pregnant women.

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* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee of the Section: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

[1] American Journal of Medical Science, vol. xc, p. 597, 1885.

[2] Northwestern Lancet, November, 1897.

Many of these cases present symptoms, which if they are carefully watched, will give some forewarning of a possibility of the occurrence of eclampsia. To emphasize this, I will mention a case I saw not long since. Early in September, in the absence of the attending physician, I was called to see a young woman who was in the seventh month of pregnancy. She is a young woman of robust build, full figure and splendid color; she had been feeling somewhat indisposed for several days, had some headache and muscular pains, and some distress about the abdomen. I noticed a great deal of puffiness, of not only the lower limbs, but arms, and she had an unnatural puffy condition generally. I gave some instructions of a temporary nature, and instructed her husband to see her attending physician as soon as he returned and have him examine her more in detail. I told him I thought he had better save the urine passed in twenty-four hours that her physician might analyze it.

Some ten days after my visit I was summoned hastily to her home to find her in the midst of an eclamptic attack. I am of the opinion that there were enough symptoms present in this case to forewarn one of the approaching danger, and had the physician watched the symptoms they might have been prevented. It is the duty of the physician to watch the progress of his cases of pregnancy.

The prophylactic treatment is of the greatest importance. It is the physician's duty in assuming charge of a case of pregnancy to keep himself informed of her general condition. Hygienic measures embracing moderate outdoor exercise, good food, frequent bathing, and to watch the action of the kidneys, liver, skin and bowels. Examinations of the urine should be made often enough to keep one informed of its specific gravity, whether there is a diminished elimination of urea.

It is a fact that in many cases we find albumin, but some writers claim that we may or may not have albumin. Gentle catharsis is important, and the hot baths frequently given will keep the skin active. Where prophylactic measures have been carefully carried out and the symptoms of impending eclampsia develop, active medical treatment is necessary. Chloroform should be administered during an attack, and chloral hydrate by stomach is recommended. If necessary, it may be given per rectum, by combining with milk one ounce the yelk of an egg, and 45 grains of chloral. Large doses of morphia sulphate have been recommended, and I think will be of great value. Bleeding, followed by subcutaneous injections or by transfusion of normal salt solution, has been recommended, especially in plethoric full-blooded patients. Veratrum viride is probably more used to-day and more highly recommended than any other drug, on account of its quieting effect on the nervous system and diminishing the heart's action. Parvin[4] says: "Veratrum viride notably diminishes the frequency of the pulse, and convulsions rarely occur where the pulse is kept at or below 60; of 100 patients treated by veratrum viride in the writer's practice, 92 were saved."

R. C. Newton[5] reports twenty-six cases treated by veratrum viride with no death. It is given in doses of 10 minims, hypodermically, or by mouth, repeated at frequent intervals, until effect is noticed upon the heart's action. It is a matter of extreme importance and imposes a great responsibility upon the obstetrician to say just when surgical interference should be resorted to and the uterus emptied. I think each case should be considered, and one's mind influenced by the patient's general condition.

DISCUSSION.

Dr. C. L. Bonifield, Cincinnati—I agree thoroughly with everything the Doctor has said in regard to making a uranalysis and examining patients before the time comes. I agree thoroughly with him that a vast majority of the cases can be recognized or anticipated by even the laity themselves. For a number of years the gentleman with whom I formerly was associated in practice has been trying to popularize the treatment of eclampsia by the use of veratrum viride. He has written on the subject more than any one else in this country, and he has talked about it on all occasions. Veratrum viride is undoubedly one of the best agents we have for the control of this condition in selected cases. In eclampsia we either have an anemic patient with a small, thready, wavy pulse or a patient with a full and bounding pulse. It is in the latter class of cases only that veratrum is of value. If properly given it is an absolute specific. I do not believe that there has ever been a case with a full bounding pulse that could not be controlled with veratrum. We must be governed by the physiologic action of the drug rather than by the amount of the drug given. The doses mentioned in the text-books are entirely too small. We must start with 45 to 60 minims of Norwood's tincture given hypodermically, and repeated every fifteen minutes, as often as necessary, until the pulse is below 60. It has been my observation, and that of every one who has used veratrum, that if the pulse be brought below 60 the patient will have no more convulsions. It should be kept at this point for two or three days. Where veratrum is not applicable, morphin and chloral are the two drugs to be recommended. My experience with chloroform in this condition has been rather disappointing. I have not seen very much benefit from it. Morphin and chloral, like veratrum, must be used in large doses. The Doctor speaks of giving chloral per rectum. That certainly is the proper way if the patient is not able to swallow the drug. The dose of chloral is anywhere from 40 to 45 grains. Morphin must also be given in full doses. Less than one-half grain hypodermically will be useless. I think that with these methods one can control most cases of puerperal eclampsia.

Dr. A. B. Cates, Minneapolis—I agree with the essayist and the last speaker. The essayist, in speaking of the prophylactic treatment, said that it was necessary to give good food. That is indefinite. It may mean a good, generous diet or a very limited diet. I think it should mean an extremely limited diet. Championière claims that no case of eclampsia occurred in his practice where he had an opportunity to keep the patient on a milk diet for at least one week. I think it is the duty of the practitioner when he recognizes this danger to also recognize the fact that it is a toxemia and that he should eliminate by means of the lungs, the skin, bowels, liver and kidneys.

As far as the treatment of eclampsia is concerned, I think we may agree with the last speaker. Veratrum viride is indicated in cases which formerly were bled. The chloral can be used with the veratrum, and the morphin should be used only in those cases where we are not able to control the eclampsia by means of the chloral or the veratrum or both. The morphin is open to the well-known objection that it diminishes the secretions, but we often are obliged to resort to it when we are not able to control the convulsions by chloroform. Then, I believe that nothing less than one-half a grain should be given and frequently repeated if necessary.

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[3] American Gyn. and Obstet. Journal, July, 1899.

[4] Universal Medical Journal, October, 1896.

[5] New York Medical Journal, December, 1895.

The necessity of examining the urine beforehand can not be too strongly dwelt upon, but I believe that you can not absolutely rely upon albuminuria as a danger signal. I had a case recently in which the urine was examined every day without any albumin being found present. Immediately after the first few convulsions the urine was again examined and still no albumin. Dr. Davis, of Philadelphia, has emphasized the necessity of watching the urea. I think that is valuable in conjunction with other things. I have examined many specimens of urine of pregnant women which contained no albumin but had a very low percentage of urea a great part of the time before the confinement. Therefore, it seems to me that a small amount of urea is not necessarily dangerous. That it is only in cases where you have albumin and a small amount of urea, in conjunction with symptoms such as headache, indigestion, etc., that we are justified in inducing labor. In any case where the urea is persistently low, the urine diminished in amount, down to one pint or less, and with albumin or edema, that is the case where we should not hesitate to induce labor.

Dr. B. F. Crummer, Omaha, Neb.—I think it is the duty of physicians to dispel the illusion of the laity that the conditions of pregnancy and labor are always physiological, and may be trusted largely to nature. It is undoubtedly this belief that renders legislation governing obstetric practice so difficult to secure. The average legislator thinks of the easy, natural birth, and then makes a large concession to the ignorant midwife. The fact is that in no class of medical practice is the responsibility of the attendant greater. Even with the closest observation we may meet with a severe emergency, such as eclampsia, or antepartum hemorrhage. In threatened eclampsia the question of rapid delivery is extremely important, and medicinal measures occupy only a secondary place. I recently saw with two other physicians a young German woman at the beginning of the eighth month of pregnancy who was so waterlogged that a digital examination could scarcely be made, and the patient could hardly sit upright; yet one of the attendants had held out against interference. I strongly advised the induction of labor, which came on six hours after the introduction of a bougie into the uterus and she was safely delivered. Should eclampsia occur the attendant should have a definite plan of procedure outlined in his mind: Chloroform first, and then as rapid a delivery as is possible with safety to the patient. I distinctly remember a case in my early practice in which after a 12-mile drive I found a woman in her ninth convulsion. With no assistance at hand I first chloroformed her and then applied the high forceps, and not another spasm occurred, although the patient remained comatose for four days, and blind for a much longer period. The medicinal measures such as the exhibition of veratrum, chloral, etc., must vary with the case. Referring to etiology I believe that skin affections have a positive effect in the production of eclampsia. I have attended a lady of 28 who suffered from a rather extensive lichen planus during her pregnancy. Urinary insufficiency was marked, and the tendency in the last weeks was to secrete only 9 to 16 ounces of urine, with a marked reduction of urea. It was only by the persistent use of eliminants and diluents that I was able to deliver her without the threatened eclampsia.

Dr. M. Rosenthal, Fort Wayne, Ind.—I know of no more frightful condition than that of puerperal convulsions and none that gives the physician more trouble. I have a case in mind that I was called to see one night when she was about four months pregnant. When I reached the house she was unconscious. I was informed that she had had a spasm. I warned them of the danger of convulsions and asked them to measure the urine and send it to me regularly. She passed about 1500 c.c. daily from that time on until the seventh month. On the day on which she had passed 1500 c.c., with no albumin, I was suddenly called and on my arrival at the house the patient had already died from a convulsion. I made a postmortem and the cause of death was evidently an acute congestion of the kidneys. They were hemorrhagic. There were ecchymotic spots in the mesentery, in the liver and lung. The right auricle was distended. In this case a venous section would have been of great service if the patient had been seen in time. I think acute venous congestion plays a great rôle in the pathology of this condition. In this case the urine had been examined regularly, the skin kept active, large quantities of water were given and yet there was a sudden acute congestion of the kidney, the patient dying in a few minutes. I think that chronic eczema is frequently an indication of renal trouble and that which produces the eczema also produces the puerperal convulsions. I do not believe that the eczema itself is responsible for the eclampsia.

C. Lester Hall, Kansas City, Mo.—The lamentable thing in connection with this discussion is our lack of knowledge of the etiology of this condition. The literature on the subject gives us no definite or entirely satisfactory indication as to the cause of the trouble. Only one gentleman has alluded to the time-honored remedy, that of blood-letting. I think that blood-letting is of vital importance and this condition followed by saline transfusion, seems to accomplish a great deal of good. I have seen the most marvelous results follow blood-letting. If we get these cases early, which is rare, there is a remedy which can be used as a stimulant to the kidneys with the best of results. It is a remedy which is supposed to be purely a diaphoretic and is never recognized as a diuretic. I refer to pilocarpin. I have given it for years, not as a diaphoretic, but as a diuretic in one-twelfth to one-twentieth grain doses three times a day. My attention was called to this drug by accident. I had a case in which I had given the large doses of veratrum suggested by Dr. Bonifield, and yet my patient seemed doomed. I gave pilocarpin hypodermically and much to my surprise it produced a decided diuretic effect without affecting the skin. I then began to use the remedy in suspected cases, giving small doses with much water and the result justifies me in recommending the drug to you.

Dr. Beattie, in reply—There is one important fact to be remembered and that is that each case is an individual one and must be treated according to the symptoms that have developed. Dr. Bonifield has mentioned that there are cases where veratrum should not be used; I agree with him. Dr. Hall uses pilocarpin and I agree with him. I had a case of eclampsia which Dr. Hall saw with me and we used pilocarpin with good results. The only case I ever lost was one where I did not keep myself posted on the condition of the urine and where I resorted to blood-letting. My experience was not as satisfactory in that case as I expected. I believe that each case must be treated in an individual way, and that no one remedy is a specific for them all.

CESAREAN SECTION AS A METHOD OF TREATMENT FOR PLACENTA PREVIA.*

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During the past ten or twelve years, the question of Cesarean section in the treatment of placenta previa has been from time to time brought to the attention of the profession. Those discussing it have strongly opposed or advocated it; but the probabilities are, like all new departures in medicine, it has not escaped the fate of being judged either too harshly or with too much favor. Lawson Tait[1] was one of its strong advocates, and a short time before his death, in an article on "The

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* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee of the Section: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

[1] The Lancet, Feb. 11, 1899.

Treatment of Unavoidable Hemorrhage by Removal of the Uterus," he took the ground that the only safe treatment for placenta previa is the operation of Porro-Cesarean section. The profession has been slow in accepting this doctrine, and probably never will; for it is the experience of all, that where the placenta is laterally attached, and the cervix easily dilatable, delivery may be conducted with comparative safety; but on the other hand, given a central implantation and a rigid os from any cause whatever, then no more serious or fatal condition can confront the obstetrician; and there are those who believe cases of this character demand the Porro or the classical Cesarean section in the interests of both lives at stake.

The discussion of the subject began with an able article by Hutson Ford,[2] of St. Louis, recommending the operation on theoretical grounds, though the only instance in which it had been performed at that time terminated unfavorably. Drs. Dudley of New York and Boyd of Philadelphia have also written valuable papers advocating this operation from this same theoretical standpoint. Grandin and Jarmin, in their work on "Obstetrics" (edition of 1898), make the following statement: "The elective emptying of the uterus enables us to save nearly 90 per cent. of the children, instead of losing that number, as was the record of the past; and the chances of saving the woman's life may be placed at about 98 per cent.; but these statements apply strictly to cases where there is no temporizing with tampons, or worse than all, ergot." Now, if the conditions here enumerated were invariably present and a skilled attendant at hand when the abnormality first makes its presence apparent; if these cases were only met in well-conducted maternity institutions, and it were possible always to obtain the low death rate mentioned, then every argument in favor of Cesarean section would fall to the ground. I have been unable, however, to find any other authority that places the fetal death rate in placenta previa under any circumstances at this low figure. It must be the exception then, rather than the rule, when the conditions which make is possible are met. On the other hand, Reynolds says: "Even induced labor shows an immediate fetal death rate of 33 1-3 per cent., with an ultimate mortality of from 50 to 75 per cent.;" and the danger to the mother, all agree, is very great.

As is well known, the older statistics show placenta previa to have a very high mortality for both mother and child. Without regard to variety of implantation, in those of Muller the maternal mortality is 23 per cent., and the fetal 64 per cent.; while King's give a maternal mortality of 22.5 per cent., and a fetal of 57.5 per cent. This high maternal death rate has, during late years, most certainly been lowered; not so, however, with that of the child. Here statistics show but little improvement.

Lusk says: "Nearly two out of every three children are born dead, and more than half of those born living die within the first ten days." In a recent paper by Dr. Chas. P. Noble upon the subject of placenta previa, read before the Philadelphia County Medical Society, he placed the maternal mortality at 5 per cent. and the fetal at 50 per cent.; at the same meeting Dr. Barton Cook Hirst placed the maternal mortality as low as 1 per cent., and the fetal at 50 per cent. He does not, however, consider an operation that promises to save most of these fifty lives now lost, with but little, if any, increase of danger to the mother, as worthy of consideration.

The better results reported by these gentleman, at least as far as the mother is concerned, can not by any means be considered as the death rate in general. They can only apply to cases in the hands of experts under favorable surroundings.

As regards the most fatal form of implantation, placenta previa centralis, Dorland's late work yet places the maternal mortality at from 30 to 40 per cent., and the fetal at from 75 to 80 per cent. The ideas suggested by our statistics are of so conflicting a nature regarding this condition, that in order to arrive independently at some definite conclusions, I recently sent blanks to 1000 leading physicians and maternity institutions of this country, asking their experience with it. I have received replies from many of them, so enabling me to present statistics, which I have every confidence at least approximate the truth:

The total number of cases of obstetrics so reported were 105,935, with 216 cases of placenta previa, or an average of one in 481 births. Of these 216 cases, 34 mothers were lost, or a death rate of 15 1-3 per cent.; and 96 children, a death rate for them of 44 1-3 per cent. As to the variety of implantation, there were 88 cases of centralis, and 20 of the mothers were lost, or a death rate of 22 8-11 per cent.; while 66 of the children were lost, a death rate of 70.5 per cent. Of the two other forms of implantation (partialis and marginalis), 128 were reported with 14 deaths for the mothers, a death rate of 11 per cent:, and 41 of the children, or a death rate of 31.5 per cent. It may not be without interest to say that none of the mothers died prior to the seventh month, which corresponds to the statistics of Muller, in which, of the 128 deaths noted by him, not one died before the seventh month, and one-third reached the end of gestation. Then, why recommend induction of labor before the child is viable?

While the foregoing statistics show the maternal death rate to be greatly reduced over that of former times, no doubt due to our better methods of treatment, viz., the Braxton-Hicks, version and forceps, bipolar version, etc., yet practically nothing has been done toward lowering the fearful fetal mortality; and surely no one will deny that the child has rights that should be respected. As is well known the Roman Catholic church places the life of the mother second to that of the child; but whether this doctrine be admitted as correct or not certainly the mother should rightfully be held responsible for its welfare, though her own danger be thereby in some measure increased.

In 1893, Dr. August C. Bernays of St. Louis, so far as I know, performed the first successful Cesarean section for placenta previa, saving the mother; the child died in ten hours after the operation from asphyxia. In a recent personal letter to me, he says this operation should be considered as terminating favorably, as the death of the child was in no wise due to it. In his report of the case he mentions two others as having been done prior to his, both of which, however, had proved fatal. Up to the present time there have been reported in this country, as far as I am aware, five cases of placenta previa treated by the classical Cesarean section, and one in Italy. In the latter, which was done by Dr. Matolli, both mother and child were saved. Of the five American cases, the only successful one, aside from that of Dr. Bernays above mentioned, was done by Dr. Frances P. Donnoghue of Boston, in December,

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[2] American Gynecol. Journal, September, 1892.

1900. In addition to these six reported, making seven in all, Dr. P. D. Covington, of Bellefontaine, Ohio, on April 17, 1901, performed Cesarean section for placenta previa centralis, complicated by contracted pelvis. No report of his case has as yet been published and I am indebted to him for the following short and incomplete account of it:

"In two previous pregnancies embryotomy had been done for the patient, and in the third a dead child had been instrumentally delivered. Following the first embryotomy there had been puerperal mania. It is said that these three children weighed, respectively, 15, 18 and 12 pounds. In the fourth pregnancy a severe hemorrhage occurred at the end of the seventh month. The second hemorrhage necessitated immediate action; and a Cesarean section was done. The patient was bleeding furiously at the time and continued to do so till after the placenta was removed. The hemorrhage was controlled after removing the placenta, by pressure around the cervix and on the broad ligaments, and by the introduction of a deep row of interrupted silk sutures including the muscular wall of the uterus, but not its peritoneal coat. The uterine peritoneum was closed with interrupted silk, and the parietal with continuous catgut. The abdominal wound was closed with silkworm gut and catgut. The mother made a good recovery; the child is well and healthy at date."

Lawson Tait, on December 21, 1898, saved a mother and child by the Porro operation; and in January of the present year, a case in the writer's hands by the same operation was equally successful, a report of which was presented at the last meeting of the Ohio State Medical Society. So far as I know, up to the present time, no other Porro operations have been done for placenta previa. In Lawson Tait's case, though an emergency one, the mother made an easy recovery; but the child unfortunately died a month later of a prevailing bronchitis. In the writer's case, recovery was uneventful, though at the time of operation the pulse was 130, and the woman almost bloodless from repeated hemorrhages. The child, though artificially nourished, is at date growing finely. Theoretically, Cesarean section should have no fetal death rate; and practically, even for placenta previa, it should be exceedingly low, in all probability not more than 10 per cent. There can be no reason for a higher rate than this, and it would likely be much lower than 10 per cent. if the cases were operated before hemorrhage had continued to such an extent that the child's life was endangered by it. Granting that this opinion is not far from correct, will not the saving of from forty to fifty human lives out of one hundred, which we now lose in spite of our best efforts, constitute a strong argument in favor of this new departure in obstetrics?

In the hands of skilful abdominal surgeons the maternal death rate for Cesarean section is far below the 22 8-11 per cent. which my statistics show to be the death rate in placenta previa centralis, and even below the 15 1-3 per cent., speaking without regard to variety of implantation; and if it can be shown that its present low mortality for other conditions is not increased when done for placenta previa, then argument in its favor, in the interests of the mother as well as the child, can hardly be controverted: and I am sure that this will prove to be the case.

It is well known that one of the grave dangers encountered where there has been great loss of blood in the parturient woman, is the failure of the uterus to contract, as a result of her bloodless condition; and, consequently, further hemorrhage ensues. This failure likewise predisposes to sepsis, and in so great degree that in 273 of Mueller's recorded cases, 79 became septic and 54 of them died, or about 20 per cent. The reason for this is perfectly apparent; the uterus, not contracting properly, allows the retention of blood clots and debris, which constitute a most excellent field for the propagation of germs. The unknown quantity, shock, is also an important factor to be dealt with. Recognizing these principal dangers, we may deduce some useful conclusions as to operating.

We may divide cases of placenta previa into cases of emergency, and those which may be kept under careful observation for some length of time. Thus far, it is only in the field of placenta previa emergency cases that Cesarean section has found recognition. The cases of emergency are those in which, when first seen, a large quantity of blood has been lost; and, as a consequence, these are the ones most likely to have further hemorrhage, followed by sepsis and shock. These are the patients, if we are to save them at all, with whom the procedure must be adopted that reduces these factors of danger (hemorrhage, shock and sepsis) to a minimum; and I am sure you will agree with me that the Porro operation does this as no other course of treatment yet devised can. Inasmuch as it can be done with great rapidity, and does away absolutely with all danger of further hemorrhage, shock is thereby materially reduced; and if sepsis follows, it is the fault of the operator, and not the operation.

For these reasons, in cases of emergency, when the uterus fails to firmly contract, I have no doubt the Porro operation will in time prove the preferable method of treatment, and will be done, even though at the cost of the uterus.

In the writer's case the classical Cesarean section would most certainly have proved fatal; for the uterus would not contract after the removal of the placenta sufficiently to control hemorrhage from its site, though at least ten minutes were spent in vain attempts to induce it to do so. Every time the rubber cord, tied about the uterine neck, was loosened, blood would ooze from about the cervix, and it was necessary to tighten it at once. Finally, the uterus was amputated with the happiest results.

In the cases of emergency where there has been but little hemorrhage and the patient is yet in good condition, then the dangers above mentioned would only in a slight degree obtain and the Porro operation would be a needless mutilation; though it may be argued that a woman, once the subject of placenta previa, would live a life of greater safety if the uterus be removed. For it is a well-established fact that, once the subject of placenta previa, her future pregnancies are likely to be complicated by it.

The question as to whether Cesarean section should be used in the class of cases which may be kept under careful observation for a length of time, must be left for future discussion. In my opinion, however, the time will come when some of these at least will be treated by it.

In conclusion: The cases operated are as yet so few in number that no accurate deductions can be drawn from them, but I think it must be granted that Cesarean section, if generally adopted for placenta previa, will reduce the fearful fetal mortality which we now have, to at most 10 per cent.; and when 93 consecutive

Cesarean sections in the hands of three men (Reynolds, Leopold and Evarks), can be done without the loss of a mother or child, we certainly have reason for our faith that it can be done without any increased danger to the mother, over what she must incur by any of the older methods of treatment, and must therefore be considered a correct procedure. The classical section can be adopted where the uterus contracts firmly, where there is no probability of infection, and where the patient is in a condition to withstand the shock necessitated by prolonged operation; but on the other hand, where the uterus does not contract firmly, thus rendering further hemorrhage and sepsis probable, or the patient is unable to withstand additional shock, then the Porro-Cesarean section is, in my opinion, the only procedure warranted.

DISCUSSION.

Dr. Joseph Eastman, Indianapolis—I endorse every word of the paper. At the same time I will call attention to a few points of interest. When we compare the Porro operation with the removal of a large fibroid from the abdominal cavity, conditions are more favorable. Instead of the broad ligaments being large, we find them quite normal. The uterus is also in better shape than in operations for fibroma. Consequently we ought to have less mortality after the Porro operation than following operations for large fibromata. It is essential, as in many other operations, that we get these cases early. Many of them have lost the blood which will carry them through a successful Porro operation before the surgeon is called to see the case. Professor Lusk said that the resources of surgery are rarely successful when practiced on the dying. That is certainly true. The woman may have flowed to such an extent that interference is not indicated, but I believe that even in extreme cases the Porro operation is justifiable. It is, however, not an operation to be undertaken by everybody, nor under all circumstances. The Doctor speaks truly when he says that if the patient dies from sepsis, it is the fault of the operator and not the operation. Only the few are masters of aseptic surgery and not the many.

Dr. A. C. Bernays, St. Louis, Mo.—I will never forget the Sunday afternoon when I was called by Dr. Thomas O'Reilly. He was, until his death, doing the largest general practice in St. Louis. That day he had a case of placenta previa, the fortieth he had seen in 34 years. I had spoken with him and with others in St. Louis about doing a Cesarean section in these cases. In fact, Dr. Hudson Ford had written a paper strongly advocating, on theoretical grounds, the substitution of the Cesarean section or Porro operation in all cases of placenta previa. Dr. Ford was one of the many who had most unfortunate results with the school treatment of placenta previa.

The first and most important point is to determine the mortality following the treatment of placenta previa according to the school method, and Dr. Gillette has adopted the only means by which we can get at this fact. It seems that he sent out a question sheet to the medical directors of maternity hospitals and that he received replies giving him the record of 106,000 obstetric cases; 260 of them were cases of placenta previa with a mortality of 22.5 per cent. That seems to be a fair way of getting at the mortality in maternity hospitals. Unfortunately, we can not get the mortality in private practice, but I believe it is twice that. When I was in obstetrical practice with my father I know the worst results were those in cases of placenta previa. He had been a professor in a St. Louis medical college and was considered an expert obstetrician. I saw him lose case after case. Of course, this was in pre-antiseptic times. We know that the mortality of placenta previa is very much higher than the mortality of Cesarean section. We have the absolutely correct statistics from German maternity hospitals and also from hospitals in this country. We know that Leopold lost only 2 cases of Cesarean section out of 50 reported the first time, and 3 out of the second-50. Of course, he operates under the most perfect condition in a government hospital where antisepsis and asepsis are carried out to the fullest possible extent. I admit that it is impossible to perform Cesarean section in private houses with a mortality as low as that.

I think Dr. Eastman did not exactly understand the condition when he said he would advocate the Porro operation in *placenta previa*. I believe it is indicated when there is a narrow pelvis and in cases where it is desirable that the woman should not become pregnant again, but I can see no reason why a woman who has placenta previa should be deprived of her genital organs. She may not have a placenta previa at her next pregnancy. As a routine treatment in this condition, I believe we should always recommend a Cesarean section. It seems to me that the method described by Howard Kelly is so simple and easy that any gynecologist, fairly well skilled in abdominal work, would have a mortality of less than 10 per cent. In the case I saw, the woman had had two gushes of blood. I was extremely careful as to asepsis as I wished to establish the fact that we in America could do the operation successfully. I felt certain that it would become the school treatment for placenta previa. Feeling and sentiment should not enter into this question. It is a cool scientific proposition, to be answered on the basis of carefully collected statistics. If the mortality of Cesarean section in placenta previa is lower than that of the other methods of delivery it will be adopted no matter whether anyone shakes the flag of conservatism or not. Flag shaking and appeals to passion can have no recognition in a scientific body even if brought out by men who have at one time in their lives been looked up to as authorities. The days of authority in science are rapidly passing away. We will respect no authority but demand demonstration.

Dr. W. O. Henry, Omaha—It seems to me that we ought not to be too premature in the matter of the Porro operation. A woman should not be deprived of the maternal function too rashly and without good causes. It is not always necessary to perform a Cesarean operation in these cases. There is a class of cases in which it may be wise or necessary, but there is also a class in which it is not. Perhaps it is impossible at present to say just where the division line is. I saw a case about three years ago of a woman seven months pregnant. The physician in charge was a very competent man; we decided to tide the woman over until the eighth month. The hemorrhage became so severe that we did not dare delay any longer. We performed a premature labor and both the mother and child survived. The mother has since borne a living child and is in better health to-day than she ever was. This was a case of placenta previa centralis, but it was not necessary to do a Cesarean section. These cases usually give sufficient warning by the first hemorrhage, so that they can be taken to the hospital where they can be properly treated. I do not believe that the Porro operation is ever indicated merely because the woman has a placenta previa.

Dr. George J. Englemann, Boston—There is a fascination in the brilliant results of modern surgery which is liable to lead up too far in that direction. I think that the expressions made here this morning, going out to the profession at large, are dangerous. It has been said that this will be the school treatment for placenta previa. That is a dangerous statement to make. I know what some of these cases are. They are cases which were not emergency operations and which might have been delivered in another way. Women in the hospitals are carefully prepared and the operation is done under the best conditions. That is where you get these brilliant successes of Cesarean section. Not one of them is an emergency operation. What is the result of Cesarean section in placenta previa when the patient is exsanguinated and it is an emergency operation? Who are the men who do these successful sections? They are surgeons skilled in that particular work and they can do it with success in any case. Some men have gone so far as to say that women will prefer Cesarean section because they can be spared the pain of labor. That has been said jokingly, but it is the tendency of the present.

The men who handle most of these cases of placenta previa are the general practitioners in the city and country and they are called in because of a hemorrhage. Frequently the patient is in a desperate condition and they must act at once. What would be the result of Cesarean section? They have some simple methods at their command—the tampon, whether natural or artificial, whether it is put into the uterine cavity or vagina, or whether the leg of the child is pulled down by the Braxton-Hicks' method thus forming the tampon. I am sorry that Dr. Fry is not here. He reported 14 cases with no maternal death and 15 per cent. fetal mortality.

I have recently heard a method advocated in Chicago which is the Barnes' bag introduced into the cervix. I did that 15 years ago. I had no bag, but I used the condum. I had two tubes, one to poke it in and the other to hold it. In that way you get pressure on the placenta and pressure into the uterine cavity, thus holding the bag in place. A vaginal tampon is likely to fill, although that is a routine treatment which I have seen successfully used time and again in Berlin. If it is properly packed, the pains will come on slowly, until finally the tampon is expelled and the child will follow. These are the methods which we must teach and which must be used by the general practitioner and by most of us. Those who have skill can do a Cesarean section, but I do not believe it justifiable in every case. By no means should it be considered as the school treatment.

DR. DUGAN—I would like to ask the Doctor whether he would advise Cesarean section in a case of placenta previa when the hemorrhage comes on at the fourth or fifth month? I should consider the tampon more dangerous than Cesarean section, because with the tampon the bleeding goes on just the same and the patient is extremely liable to die.

DR. P. H. OYLER, Mt. Pulaski, Ill.—I have a large rural obstetric practice, and I made up my mind long ago as to what I would do if I were to meet such a case. I have heard so many reports of tamponing, but the cases all died. Two months ago it was my privilege to be in one of the maternity hospitals of one of our large medical centers. They had a case of placenta previa, and the chief ordered tamponing where the attendants were quite positive that a Cesarean section would have been the proper thing for that case, because of the apparent difficulty in dilating the os. The section was recommended, but tamponing had to be done, and as a result the woman died from internal hemorrhage shortly afterward. That was in an institution where Cesarean section could have been safely performed. It has been my good fortune to meet only one case of this kind in my practice. After the first alarming hemorrhage I did not wait to tampon, but I anesthetized, and gradually bored up and delivered the child in about an hour and a half. The child died five hours later, but the mother made an uneventful recovery. I think the trouble, in a large percentage of cases, is in not taking proper action soon enough. If I could not do anything, I should certainly send for a well-known and recognized expert. I would not subject my patient to any risk whatever on the account of the sentimental ideas so often expressed in behalf of the offspring. Prompt decision to act or abandon the case is my motto.

DR. C. L. BONIFIELD, Cincinnati—I thoroughly agree with Dr. Engelmann that this paper and this discussion should not go out before the world, advocating Cesarean section as the school treatment for placenta previa, without a protest. The statistics quoted are those of men who are experts in abdominal surgery. Those who have quoted statistics from the obstetric standpoint, have quoted statistics of men who are not expert in this work. One man reported 14 successful cases treated from the obstetric standpoint. Another man reported 25 cases. I do not remember the child mortality, but it is certainly an excellent record from the maternal standpoint. As some one has truly said, these are emergency cases and we certainly can not expect to have a low mortality. Before an expert can be gotten the patient will be exsanguinated and the patient's resistance to operation will be materially lowered.

Some one said that it is a well-known fact that a patient who has had placenta previa will usually have it again. If she had it once it indicates that something was wrong with the uterus. I am inclined to believe that it was an endometritis with a dilatation of the uterine cavity. If this condition is relieved and the patient put into perfect health, the probability is that she could give birth to healthy children afterward. Even if the fetal mortality is a little higher it would at least save the mother.

As to the tampon, the last speaker said that the chief of staff ordered the patient tamponed. That was not what he should have done. He should have tamponed her himself so as to make sure that it was properly done. One gentleman spoke of the difficulty in dilating the uterus, doing it promptly and rapidly. I believe that in these cases the patient should always be sent to the hospital and the treatment be done slowly. We are tending too much to gynecology, too much to surgery, and obstetrics is being neglected, and that is the reason why we should try and arrange our program so that a whole day or two would be devoted to obstetric papers. I think one of the greatest faults in teaching obstetrics is that we teach that few vaginal examinations should be made. That is wrong. No man can be a good obstetrician unless he learns to know the mechanism of labor. If he can clean his hands for surgical cases he can also clean them for obstetrical cases. We should teach our students to examine carefully, aseptically and often, to know what they are doing. In this way they will be competent to deal properly with obstetric cases.

DR. F. D. REESE, Cortland, N. Y.—There are two things to take into consideration, the life of the mother and the life of the child. Which shall we save? If we wish to save the child I believe in doing a Cesarean section, but if we wish to save the mother I believe in doing something else. If we are called in these cases let us cleanse our hands thoroughly and introduce one hand directly into the uterus, grasp a leg, perform version and plug up the cervix at once. Then you can deliver at your ease.

DR. H. P. NEWMAN, Chicago—I can hardly recommend the last speaker's statements. The obstetrician should think of something more than the immediate welfare of the mother and child. Their future health should be considered in obstetrical work.

DR. GILLETTE, in reply—Dr. Bernays thinks Dr. Eastman wrong regarding his ideas of the Porro operation in this class of cases; but as I understand them, they are entirely in accord with those which I tried to express in my paper. There is, I am sure, a distinct field for both the classical and the Porro-Cesarean section, if this operation is finally to be recognized as a legitimate procedure for placenta previa. The Porro will probably prove the safer, in cases of emergency where much blood has already been lost, and the classical, applicable to those yet in good condition. I took the trouble to write to all the gentlemen of whom I could learn, who had performed Cesarean section for placenta previa, and asked the cause of death of their patient, if the patient had died; those who replied, and nearly all did so, invariably said: "She died of shock."

I tried to show in my paper, that in patients operated on by the Porro method, shock was reduced to a minimum and sepsis would not be so likely to occur. We know that shock is due to hemorrhage and prolonged operative procedure. In those cases in which much blood has been lost, the uterus often will not contract firmly, and is on this account extremely likely to bleed again. The Porro does away with this danger entirely. Further, a classical Cesarean section requires more time for its performance than the Porro, which entails more shock. For these reasons the Porro is in my opinion a safer operation in emergency cases.

When facing a situation of this kind the question as to whether the patient can afterwards bear children or not, can not be considered the paramount one, but instead, the present saving of the two lives entrusted to our care; and we would certainly not be doing our full duty to both, if the course adopted were not the one most likely to accomplish this. I am sure no one would advocate Cesarean section for all cases of placenta previa. Where there is partial or marginal implantation, the older methods are usually successful; but the cases of the central variety, where the cervix does not easily dilate, and in which the hemorrhage is profuse and uncontrollable then Cesarean section, in my opinion, is not only a justifiable procedure but is imperatively demanded.

THE CHEMICAL AND MICROSCOPIC EXAMINATION OF BLOOD.*

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Until recently little has been known of the blood as a factor in the cause of disease. The microscopic morphologic changes which take place in the blood, and their cell identity, have quite definitely been fixed or determined; however, there has not been much progress made from a chemical standpoint in blood examination. Recently, Schmidt, Hoppe-Seyler, Judell and others have contributed liberally to the chemistry of the blood. and among other things they have given us chemical blood analysis, and a working foundation whereby we are enabled to forward chemical analyses of the blood with more precision. The blood in the body is enclosed, so to speak, in a sealed tube, and is unable to gain exit, except by osmosis, or through solution of continuity in the blood-vessel. The depletion of the red blood normally takes place, principally, in the spleen, and it receives its supply from the lymphatics and red bone marrow.

The blood is composed of plasma, serum and blood-plates. Intermixed in the blood, gases are found—carbonic, oxid and oxygen. Salts are also found—magnesium, calcium, potassium and sodium. To these salts are accredited, by many writers, the alkalescence of the blood. In the blood are found red and white blood-corpuscles. The red corpuscles are composed of oxyhemoglobin and neucloproteids, lecithin and chloesterin. In the leucocytes have been demonstrated fatty acids, lecithin, glycogen and salts, similar to those found in red cells. Blood-plates are regarded by Lilienfield as belonging to the neuclo-albumins, and are supposed by him to be the remnant of the leucocytic neuclei.

The blood serum, containing serum-albumin and serum-globulin, is subject to chemical change in puerperal septicemia, and in febrile disease; serum-globulin is less subject to change than serum-albumin.

The inorganic salts of the serum are phosphates, chlorids, carbonates and sulphates. The pathologic variations in the phosphates of the serum vary in slight degree and importance. The variations in the chlorids of the serum, investigated by Schmitt, Barnicke, and Limbeck, have not been found extreme nor of notable pathologic import, although this principle is chiefly responsible for the isotonic relations of cells in serum. A high percentage of chlorid is usual in anemia. The larger the proportion of plasma, the greater is the percentage of chlorids in the blood. The alkalies, sodium and potassium, are principally combined with chlorin in the blood. Large proportions of phosphates and carbonates of sodium and potassium are found. Sodium salts are principally found in the plasma, being usually increased in the watery blood. Potassium, found in red cells, is diminished in hydremic conditions.

Sodium carbonate in the plasma is responsible for the alkalinity and the power of plasma to produce CO_2. The iron in the blood is principally found in hemoglobin; traces are found in plasma and neuclein. Seegen, Chaureau, Cavazanni, von Mering, Limbeck, found in normal blood traces of glucose, which is increased by a diet of carbohydrates and diminished by muscular exertions. The diastase ferment of blood is found in the red cells and serum, and is found, by Castellino, Tiegel, Plosz, and Precka, to have the power of coagulating blood. It is inhibited by the neuclein and increased by sodium sulphate and chlorid.

After a heavy meal, fat has been demonstrated in the blood, by Gunprecht. The occurrence of free fat, palmatin, stearin and olein in the blood in health and disease has repeatedly been observed. It has been found very much increased in healthy individuals after a hearty meal. Acetone is found in fevers, Jksch has demonstrated fatty acids in the blood of leukemia, acute atrophy of the liver and infectious diseases.

CHOLEMIA.

The poisonous symptoms developed in cholemia have been referred, by most authorities, to the presence of biliary acids. To the naked eye, icteric blood may appear yellowish-red in color in the serum or its foam. Small quantities of bile pigment have been readily detected by a peculiar yellowish tint. On rapid heating, the yellowish-red bilirubin changes to green biliverdin. Diminished isotonic tension and increased resistance of the red cells are peculiar characteristics of the red blood in jaundice. Limbeck found tension of the cells reduced .40, .38, and .32 per cent. sodium chlorid. The well-attested fact that in intense jaundice red cells are frequently dissolved by biliary principles, can with some difficulty be reconciled with that markedly hyperisotonic quality of the serum. Bile acids affect the union of hemoglobin with the stroma of the red cells, rendering hemoglobin more easily soluble; this accounts for the solution of red cells in jaundice, as well as in other conditions. Other characteristics of icteric blood are increase of nitrogenous bodies, diminution of chlorids of both blood and serum, which is displaced by biliary acids, and well-marked increase in the volume of red cells. Well-marked cholemia may be detected by inspection of serum or foam on heating to 50 C. Bilirubin may be changed to biliverdin by this process.

By the intravenous injection of glacial acetic acid in the rabbit, I have been able to get an acid reaction several hours afterward by the phenol-phthalein test. It simulates that found in diabetic cases. Singular to say, I have also found that a rabbit weighing 1550 kilos can, apparently without any inconvenience, tolerate as high as a 2-gram intravenous injection of glacial acetic acid into the vein. Examination of the blood shows decrease in red cells and hemoglobin, also decreased leucocytes.

The specific gravity of the blood varies by the amount of water present and amount of salts contained. The conclusion reached by many authors has placed the specific gravity from 1.058 to 1.062 in man; 1.054 to 1.060 including both sexes. The specific gravity of the blood may be increased by sweating, lack of food, muscular exertion, and may be decreased by freely imbibing in water or fluids.

Osmosis is the force which leads to the interchange of blood through the animal membrane, until the salt in each is equal. When two fluids have equal content of salt, they are said to be isotonic. The isotonic tension of red cells is .46 per cent. sodium chlorid. Homberger finds that albumins, phosphates and chlorids behave differently after changing osmotic conditions. When a litthe acid is added to blood, albumin and phosphates pass from the red cells to the serum, while chlorids pass from he serum to the cells, but when an alkali is added the pposite transfer is induced.

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* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee of the Section: Frank Billings, George Dock and J. M. Anders.

Similar physical effects are produced by the passage f oxygen and carbonic acid through the blood. Homerger suggests that these factors take an important part the metabolic exchanges in the capillaries.

It is an established physiologic principle that the abrbent power with relation to carbonic dioxid, entirely epends on its alkalescence; venous blood contains more arbonic dioxid than arterial.

Febrile processes are generally accompanied by diinution of CO_2 in the blood. Often in proportion to he height of the fever this condition, according to epherd, and Minkowski, is referable for the abnormal roduction of acid metabolic principles in the blood. In he cachexia of carcinoma, Limbeck and F. Klemperer found marked diminution of the CO^2 in the blood, but did not estimate the acid principles.

The blood is frequently very difficient in $CO._2$ There are certain unsaturated salts in the blood,—sodium ($Na_3 CO_3$; NaH_2-PO_4: Na_2 HPO_4)—which, although alkaline to litmus are acid to phenol-phthalein and are capable of uniting with bases. When fresh blood is alkaline serum reacts as acid phenol-phthalein. The capacity of the blood salts to neutralize bases has been called its basic capacity, by Krous. In normal venous blood Krous found the capacity to be .162 to .232 per cent. NaOH, which increase in febrile conditions to .209 to .272 per cent.; this is a demonstration of the marked increase of basic capacity in diabetes and has been regarded as strong evidence of acid intoxication in this disease.

By increasing doses of phenylhydrazin it is possible to reduce the red blood count to one million corpuscles, or even to a greater degree.

EXAMINATION OF THE BLOOD.

Five things are essential in order to make satisfactory examination of the blood: 1. The apparatus must be absolutely clean. 2. The various stages in the process must be performed rapidly, because the cell coagulation of the blood will interfere with any of the tests. 3. The work must be done accurately. 4. Making large quantities of stain and keeping some in glass-stoppered bottle will standardize the solution, so one will receive minimum variations in intensity of stain. 5. Fixing of specimen, by continuous heat, with as slight a degree of variations in distribution of heat as possible; taking of blood specimens with reference to time of day.

In the healthy individual, with the above-mentioned methods, I have noted increase and decrease of the leucocytic count, varying from 1000 to 7000 per cubic millimeter in the course of a day.

In order to more accurately fix the blood count, I have found that specimens taken in the morning, before any undue excitement is indulged in and previous to taking of fluids, or solids, will give a more uniform blood count than those taken at any other period of the day.

A subcutaneous injection of quinin in the forearm in a case under treatment for malarial fever at the hospital at Nantes, France, resulted in paralysis of the thumb and forefinger, incapacitating the patient for work for several months. He sued the hospital, the physician in charge and the interne who made the injection, claiming that the latter had failed to obey instructions to make the injection in the thigh. The courts exonerated the defendants and dismissed the case with costs.

LEUCOCYTE COUNTS IN HEMORRHAGE.*

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It has been conclusively demonstrated that the loss of blood in man and the higer animals is followed by an increase in the number of leucocytes in the circulating blood. This increase in white cells following hemorrhage has been called post-hemorrhagic leucocytosis and ranges all the way from 11,000 to 30,000 white cells per cubic millimeter.

How soon after the hemorrhage the leucocytosis appears does not seem to have been determined with absolute certainty. Cabot, in his "Clinical Examination of the Blood" (page 111), makes this statement: "Immediately after a loss of blood, we can usually find a decided leucocytosis, despite the dilution of the blood." On page 90 of the same work he writes: "Within an hour after a large hemorrhage we commonly find a considerable increase, 16,000 to 18,000 cells."

The size of the hemorrhage required to produce a leucocytosis and the length of time during which the increase of white cells continues after the hemorrhage has stopped are questions upon which meager information is offered. In two cases of cerebral hemorrhage recorded by Cabot (page 111), the loss of blood was not great enough to affect the red cells, but the white cells were much increased. In one a count of 25,000, in the other a count of 15,000 white cells was made.

On page 91 of Cabot's work appear these words: "In hemorrhage from the stomach, the leucocytosis disappears in a day or two, while in traumatic hemorrhage it persists longer."

The statements above quoted sum up in a general way all the definite knowledge we possess on the leucocyte count in hemorrhage. Much, if not all, of the data upon which these statements are founded has been gathered from counts upon clinical cases in human beings, where other factors beside the hemorrhage *per se* may have played an important part in the rise or fall of the white cells and where the leucocyte counts must of necessity have been made sometime after the occurrence of the hemorrhage.

I wish to place on record some experimental work on the leucocytes in hemorrhage, which excludes these disturbing factors and gives us what appears to be definite results somewhat at variance with generally accepted views. The experiments were performed on dogs, and I am indebted to Dr. R. O. Beard for his kindness in permitting me the use of material upon which he was experimenting.

The normal leucocyte count in dogs is about that of man, 6500 to 9000. The same laws seem to govern the increase or decrease of leucocytes of the circulating blood in dogs and in men, so far as the writer has been able to follow them. There is a leucocytosis of digestion and a leucocytosis following septic infections in dogs as well as in human beings. The varieties of leucocytes in the circulating blood of dogs are essentially the same as those in man. In all probability the conclusions arrived at from these experiments in dogs would apply equally well to human beings.

EFFECT OF HEMORRHAGE ON THE *LEUCOCYTES*.

The first series of experiments deals with the effect of hemorrhage on the number of leucocytes in the circulating blood. Five healthy-looking dogs were selected for the experiment. The procedure in each was as follows:

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* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee of the Section: Frank Billings, George Dock and J. M. Anders.

From a freshly made puncture in the ear of the dog a white blood count was made with a Thoma-Zeiss hemocytometer, 1-3 of 1 per cent. glacial acetic acid being used for the dilution fluid. The left femoral was clamped with a small artery forceps, a small incision made in the side of the vessel, a canula introduced into this opening and tied in place. The artery forceps was then unclamped and the blood allowed to flow out of the canula into the measuring glass. As soon as from 200 to 500 grams of blood had escaped, the amount bled depending on the size of the dog, the artery was tied with a silk ligature and a second white-blood count immediately made. The wound was then sutured and surgically dressed. The following results were obtained:

In dog 1, the white count, two to five minutes before bleeding, was 9600 leucocytes. The dog was bled 394 grams of blood from the left femoral artery. The white count, two to five minutes after the artery was tied, showed 6300 leucocytes.

In dog 2, the white count, two to five minutes before bleeding, showed 6600 leucocytes. The dog was bled 493 grams of blood from the left femoral artery. The white count, two to five minutes after the artery was tied, showed 2600 leucocytes.

In dog 3, the white count, two to five minutes before bleeding, gave 9000 leucocytes. The dog was bled 660 grams of blood from the left femoral artery, and the white count, two to five minutes after the artery was tied, showed 8000 leucocytes.

Dog 4, was bled on August 7, 47 grams of blood. On August 9 the white count, three to five minutes preceding the second bleeding, showed 14,000 leucocytes. The dog was bled 354 grams of blood from the left femoral artery, and the white count, two to five minutes after the artery was tied, showed 10,300 leucocytes.

Dog 5 was bled on August 7, 47 grams of blood. On August 9 the white count, two to five minutes preceding the second bleeding showed 13,600 leucocytes. The dog was bled on August 9, 354 grams of blood. from the left femoral artery. The white count, two to 5 minutes after the artery was tied, showed 5000 leucocytes.

The results of this series of experiments clearly prove that, in dogs, immediately following a severe hemorrhage there is a fall in the number of leucocytes in the circulating blood. The counts show further that this fall in normal dogs ranges from 1000 to 4000 white cells per cubic millimeter.

That this leucopenia immediately follows profound hemorrhage in human beings, as well as in dogs, the writer has not the slightest doubt. The figures for white counts in hemorrhages in man have been collected from clinical cases, as after post-partum hemorrhage, after cerebral hemorrhage, after accidents in which important arteries were cut and large quantities of blood lost. In the majority of such cases it must in most cases have been some time after the hemorrhage before the white blood count could have been made. Therefore, observers making counts in such cases have failed to discover this initial fall in the leucocytes which has here been demonstrated. Moreover, this fall in leucocytes is just what should occur if our ideas concerning the change of fluids of the body following hemorrhage are true.

There is good experimental basis for the belief that following hemorrhage the blood becomes hydremic. That is, fluid passes over into the blood-vessels from the surrounding tissue spaces, which augments the diminished volume of blood and strives to restore it to its normal standard of quantity. This augmentation to the plasma of the blood serves to keep up the blood pressure; otherwise a very small hemorrhage might put an end to the organism. As a result of this dilution of the blood, we would expect a diminution in the number of white blood-cells. This we have proved does occur. Other observers making counts not immediately after the hemorrhage have found a leucocytosis which they were at a loss to explain, as will be seen by a statement of Cabot's. He says: "Immediately after a loss of blood we usually find a decided leucocytosis despite the dilution of the blood."

By white blood counts at a later period in these same dogs, I wish to now prove that this initial decrease in the number of leucocytes is followed by an increase in the white cells of the blood, and in all probability it was this leucocytosis which was found in most of the clinical cases of which we have record.

In Dog 1, the count before the hemorrhage was 9600; two to five minutes after the hemorrhage, 6300; twenty-four hours after the hemorrhage, 26,300; forty-eight hours after, 16,600.

In Dog 2, the count before the hemorrhage was 6600; two to five minutes after it, 2600; twenty-four hours after the hemorrhage, 15,600; forty-eight hours after the hemorrhage, 20,600 leucocytes.

In Dog 4, the count two days after the first hemorrhage and two to five minutes before the second was 14,000; two to five minutes after the second hemorrhage, 10,300; forty-eight hours after the second, 16,000 leucocytes.

In Dog 5, the count two days after the first hemorrhage and two to five minutes before the second was 13,600; two to five minutes after the second hemorrhage, 5000; forty-eight hours after the second hemorrhage, 10,000.

Dog 3 was used for intravenous injection of saline solution.

It will, therefore, be observed that the leucocytosis of hemorrhage in dogs is an increase in the number of leucocytes in the circulating blood, which is a secondary phenomenon, the primary initial change being a decrease in the number of white cells.

I regret that leucocyte counts could not have been made hourly for the first twelve hours, to determine at just what time following the hemorrhage the rise in leucocytes begins to take place.

DURATION OF LEUCOCYTOSIS.

Another question of considerable interest is: How long does the leucocytosis of hemorrhage continue? This is evidently a somewhat difficult question to settle, since we do not know what other factors besides the hemorrhage, such as the healing of the wound, the presence of infections not detectible by the naked eye, etc., play a part in the raising or lowering of the leucocyte count.

In one of the dogs (Dog 1) the count became normal (8300) on the seventh day following the hemorrhage. In another (Dog 2) the count was normal (7300) on the seventh day. In this dog the counts were as follows: August 9, after hemorrhage, 6000; August 10, twenty-four hours after hemorrhage, 26,300; August 11, forty-eight hours after hemorrhage, 16,600; August 12, seventy-two hours after hemorrhage, 13,000; August 16, the seventh day after hemorrhage, 7300. In one of the dogs, however, the count, while lower than on previous days, was not normal on the seventh day. For example, Dog 1 counted 11,300 on the seventh day following the hemorrhage, while in another dog the count was higher on the seventh than on previous days. In none of the dogs was the count normal earlier than the seventh day following the hemorrhage.

Why the leucocytosis continues for so long a time after the hemorrhage does not seem apparent. Two hypotheses might be offered. We might suppose that the leucocytosis of hemorrhage was due to an increased production of white blood-corpuscles, and that this overproduction continued for many days following the hemorrhage. On the other hand, it may be that the leucocytosis of hemorrhage is caused by a migration of ameboid leucocytes from lymph spaces into the circulating blood in search of a more congenial environment, and that the leucocytes once in the circulating blood there abide until the organism has created a suitable habitat for their existence outside the blood-vessels. The latter hypothesis seems to me the more plausible of the two, although both may play a part in the continuance of the leucocytosis.

CONCLUSIONS.

1. In dogs a diminution in the number of white blood-cells in the circulating blood immediately follows a profound hemorrhage.
2. This initial leucopenia is followed sooner or later by an increase in the number of leucocytes in the circulating blood. This is the so-called post-hemorrhagic leucocytosis of all writers.
3. This leucocytosis of hemorrhage continues for at least seven days, and in some cases much longer.

The writer believes that what he has demonstrated in dogs is equally true for human beings, viz., that in human beings, immediately following hemorrhage, there is a decrease in the number of leucocytes in the circulating blood, which has heretofore been overlooked and assumed not to exist, because hematologists have failed to make their counts early enough after the hemorrhage took place.

DISCUSSION ON PAPERS OF DRS. KELLY AND HEAD.

Dr. DeLancey Rochester, Buffalo—I simply rise to ask a question of the last writer, whether, in the differential count of the leucocytes, he noted any change in the relation of the various forms of the leucocytes occurring in the leucocytosis following the leukemia?

Dr. W. B. La Force, Ottumwa, Iowa—I should like to ask the reader of the last paper whether, in operations upon septic cases with pronounced leucocytosis, the leucocytes were still further increased in the occurrence of severe hemorrhage, as in non-septic cases with no leucocytosis?

Dr. Thomas McCrae, Baltimore—I think the findings of leucocytosis following hemorrhages are of great interest, especially when preceded by a leucopenia. In regard to the counts taken in cases of hemorrhage in the human individual we probably can observe this best in those counts taken in typhoid fever where hemorrhage has occurred. I can recall one case in which frequent counts of the leucocytes were taken, in which hemorrhage occurred, and there was a dropping off in the count of the leucocytes, which was very marked for two hours. I think this is a very important point in the recognition of abdominal conditions in typhoid fever, especially in regard to the diagnosis between hemorrhage and perforation.

Dr. George Douglas Head, Minneapolis—Cabot, in his book, states that in all cases of pernicious anemia the megaloblasts exceed the normoblasts and he makes that one of the main points in the differential diagnosis. Dr. McCrae, I believe, found a predominance of the normoblasts over the megaloblasts in many of his cases of pernicious anemia. In the few cases that I have seen, some twelve or fourteen, I have not been able to satisfy myself that the megaloblasts exceeded the normoblasts except at the close of the disease. In the early stages of the disease, when it is important to make a diagnosis, and when the differential diagnosis is the chief point of interest, I have not been able to find that the megaloblasts always exceeded the normoblasts.

Dr. Frank W. Higgins, Cortland, N. Y.—One essayist seems to doubt Hunter's theory of the importance of the mouth conditions in pernicious anemia. The point that I wish to raise is in regard to the results of treatment. Hunter is enthusiastic in supporting the idea and his success in treatment seems to promise something in favor of that theory. I have had occasion to treat but one case since reading his articles and certainly the results obtained in that case were very marked, and the recovery was complete; the treatment was based entirely upon his theory. I was impressed with the importance of securing asepsis of the mouth and upper air-passages, as well as the teeth, and it is this point in the treatment of pernicious anemia which deserves more attention than has been given it in the past.

Dr. Thomas McCrae, Baltimore—In answer to Dr. Higgins' question regarding the importance of treating cases according to the suggestions of Hunter, I wish to state that I agree with him; it is important that we should attend to the condition of the mouth, the intestinal tract, etc., but I also believe that it is also important in other diseases as well as pernicious anemia. In regard to the therapeutic treatment of these cases of pernicious anemia, brilliant results have followed the use of arsenic. A case treated in 1880 and reported by Hale White in 1890 was alive in 1900. One of our cases returned six years after treatment with cancer of the stomach. I have now under observation one case treated six years ago and the patient is reasonably well to-day. I have seen cases get well under rest, fresh air, good food and arsenic; the most brilliant results have been obtained by this treatment. I certainly agree with the statements made regarding the importance of oral asepsis.

Dr. W. D. Kelly, in reply—I hoped to create a discussion, by reading my paper, upon a possible way of medication of these pathologic conditions. We have all used normal saline solution, intravenous injections when there has been a decrease in the amount of the blood and, as I stated in my paper, I was able to use one of the strongest alkalies to *increase the alkalinity* of the blood without loss of life, experiments being made on the rabbit. In the rabbit it is easy to demonstrate that the injection of air into the veins will kill a rabbit in a few seconds; this shows the importance of excluding air when making these intravenous injections. I had hoped to create some discussion in order that I might gain some information, or suggestions, from some of the gentlemen present, that might further my investigations in this respect.

Dr. Head, in reply—I regret to say that the differential counts have not been made as yet, but I promise further reports when the differential counts shall have been completed. In answer to Dr. La Force's question, I will state that it has been my experience that where a septic infection with a high leucocyte count exists, an operation is performed and pus evacuated, the leucocytosis falls. I do not know what effect hemorrhage at operation may have upon the fall in the leucocytosis.

THE ANTENATAL TREATMENT OF HEMOPHILIA.*

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In the absence of accurate antenatal diagnosis, cases in which the effects of antenatal treatment can be tested are few and far between. The well-known tendency of morbid fetal states to repeat themselves more than once in the reproductive history of the same mother gives, however, a possible opportunity of trying to influence beneficially the health of the unborn infant; further, the hereditary character of some of the maladies which thus tend to repeat themselves increases the probability of the antenatal diagnosis, although it must be confessed that it diminishes or appears to diminish the chances of successful therapeutics. Hemophilia is a malady which fulfills the conditions which have been stated above. It is very clearly and persistently hereditary, and it also shows family prevalence. As a test case, then, it has its advantages. Given a woman who comes of hemophilic stock, who has a hemophilic father or brothers, there is a probability that her male offspring will be hemophilic; and the probability is greatly increased if she has already given birth to one or more hemophilic male children. There is a presumptive diagnosis, then, of antenatal hemophilia when such a woman is pregnant of a male infant. But as a test case it has also disadvantages. Hemophilia is a very intractable disease, and it may be urged that if it can not be cured after birth there can be little hope of curing it before birth. The latter statement, however, is merely an opinion; it may also be urged that it may be easier to affect beneficially a morbid state before birth, i. e., in the fetus, than after birth, but of this more anon. Let me now narrate the history of the case on which this communication is based.

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* Read at the Fifty-second Annual Meeting of the American Medical [illegible] ection on Diseases of Children, and approved [illegible] Executive Committee of the Section: H. E. T[illegible] and Samuel W. Kelley.

On June 25, 1900, I received, from Dr. W. H. B. Brook, of Lincoln, England, a letter, in which, after a reference to an article on "Antenatal Diagnosis," by myself, which he had read in the *British Medical Journal,* he proceeded to state the facts of a case of hemophilia complicating pregnancy and labor, which he had in his practice; and he closed his letter with the inquiry whether, in my opinion, the administration of chlorid of calcium to the mother in pregnancy would prevent the child from being the subject of hemophilia. The case was as follows:

Mrs. C., 34 years of age, pregnant for the third time, a tall, well-built woman, rather spare, with black hair and a sallow complexion, had always lost much blood at her menstrual periods and had postpartum hemorrhage after both confinements. She last menstruated on Dec. 25, 1899, and expected her confinement in October, 1900. Her family history was interesting; her mother was healthy, but her uncle—mother's brother—died at the age of 11, from bleeding; she, herself, has had four brothers and four sisters, and one of the brothers died at the age of 12, from bleeding; the other brothers are alive and healthy; four sisters are healthy and their male children are also. Her first pregnancy ended, in 1891, in the birth of a male child; there was a considerable amount of hemorrhage, which left the mother weak; the child at birth was white and anemic; it is still alive, but is a marked "bleeder," bruises easily and has suffered from hemorrhages into the joints and from the gums during the shedding of the first teeth. In fact he nearly succumbed several times during the casting of the milk teeth, from great bleeding. The second pregnancy likewise ended in the birth of a male infant, in 1894; there was again postpartum hemorrhage; the infant showed hemorrhage from the umbilical cord at birth, bruised easily, and died at the age of 12 months, during dentition, the cause of death being returned as cerebral hemorrhage. The mother was now—1901—pregnant for the third time and had reached the sixth month.

Such were the facts on which I was asked to form an opinion of successful *antenatal* treatment. I replied to Dr. Brook without much enthusiasm, pointing out the difficulty of being sure *that the* fetus was hemophilic, the uncertainty of the sex of that infant even, and the hereditary nature of hemophilia. Hemophilia, I remarked, was not *in the* same category as such diseases as syphilis, smallpox, and typhoid fever, which the mother transmits to the fetus in utero; being so distinctly and persistently hereditary it was hardly to be expected that antenatal medication begun at the sixth month of pregnancy would greatly affect it. At the same time I gave it as my opinion that chlorid of calcium might safely be given to the mother, and that it would pass through the placenta and reach the fetal tissues. I advised that the treatment with the chlorid be commenced, although theoretically the hopes of success were small; and I also suggested that iron, arsenic and strychnia be also administered, in order to improve the general health and possibly to increase the tone of the uterine musculature and so lessen the risk of postpartum hemorrhage.

Dr. Brook immediately accepted my suggestions and put the patient on a mixture containing 10 grains of chlorid of calcium thrice daily; this was continued till her confinement on Oct. 3, 1900. He also gave her a pill of arseniate of iron with strychnia thrice daily till September 17, when it was replaced by the syrup of the phosphate of iron. I had also referred to the possible benefit that might follow the administration of thyroid extract, especially if the mother did not show the normal thyroid hypertrophy of pregnancy; but as a matter of fact thyroid extract was not given, as it was difficult to say whether the thyroid gland was normal in size or not, and it was thought best not to complicate the treatment. During the three months, therefore, this woman received the above-mentioned drugs.

On Oct. 3, 1900, the confinement took place, and again the child was a male. On this occasion, however, the infant, instead of being white and anemic in appearance, was red and mottled and was, indeed, in all respects a normal new-born. There was no hemorrhage from the umbilical cord, as there had been in the previous case. Further, there was no postpartum hemorrhage, for the first time in the mother's obstetric history. The patient was able to nurse her infant, but Dr. Brook advised that this should not be attempted. The labor was easy, the vertex presented, and the whole process did not occupy more than six hours. It should be added that the cord was not tied for five minutes after the infant was born.

Since October, Dr. Brook has kept me acquainted with the progress of the case, which has been satisfactory all the time. The infant never had any bleeding and did not bruise like his brothers; during the last few weeks he has cut a tooth without hemorrhage. It may be noted as of some interest that his eldest brother still shows the bleeding tendency very markedly; during February he had severe hematuria which was uninfluenced by turpentine, but rapidly stopped under chlorid of calcium and thyroid extract.

What are we to say about this case? Here is a woman with a distinct hereditary history of hemophilia, handed down to her apparently through her mother, and showing itself in the form of postpartum hemorrhage and profuse menstruation and in the procreation of hemophilic male infants; under chlorid of calcium, and iron, arsenic, and strychnia, she passes through her third pregnancy, is confined without postpartum hemorrhage, and delivered of a male infant without hemophilia! The treatment, let it be noted, is only at the sixth month of pregnancy, but still a coincidence and nothing more. At first thought we are inclined, knowing what we know and have been taught to believe regarding the intractable nature of hereditary maladies, to accept the conclusion that it was a coincidence. If we accept the other view, that the healthy, non-hemophilic state of this woman's third son was due to chlorid of calcium administered during the third trimester of pregnancy, we are face to face with the conclusion that it is possible by medicinal substances given to the mother in the last three months of gestation to cure the unborn infant of a malady which no medicines in after-life are capable of curing. Here I am tempted to leave the question. Certainly it is far easier to take it that just as this woman had four brothers, only one of whom was a bleeder, so of her three sons two were bleeders and the third was not; even with the most hereditary complaints some members of a family escape. It was a coincidence and nothing more that antenatal treatment was instituted in the case in which the hereditary influence was going to fail! But, there are some circumstances which encourage me to express the opinion that after all there is a chance that the treatment in this case may have something more than a coincidental relation to the healthy state of the third infant.

In the first place it may be taken, from what is known of the physiology of the fetus and more particularly of placental transmission, that the chlorid of calcium given to the mother reached the fetal tissues; there is no reason to doubt that the iron, arsenic, and strychnia did also. In the second place there is evidence that chlorid of calcium is beneficial in hemophilia after birth, and there is also evidence that hemophilia, if persistently treated in postnatal life, shows a certain amelioration. In the third place there is in the extraordinary power of recovery possessed by the fetus, a factor which must not be left out of account in dealing with all questions of antenatal treatment. When we remember the marvellous power of growth and tissue-building which the fetus displays, a power so great that in one month of intra-uterine life the body weight is quadrupled, we are led to ask ourselves whether this wonder of construction may not be accompanied by an equally great wonder of reparative energy? If there be a greatly exaggerated *vis medicatrix naturæ* in the fetus, is it not possible that even the hereditary maladies may, if properly influenced, show a tendency to cure during antenatal life. May it not be that medicines acting upon the organs and tissues, while these are still in the stage of construction, may be more efficacious than when they act upon structures which are, as it were, set either for health or disease. In the meantime the case and these comments on it are placed before the profession. *In judicando criminosa est celeritas.*

24 Melville Street.

THE PREVENTION OF PULMONARY TUBERCULOSIS IN PREDISPOSED CHILDREN.*

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Before the discovery of the bacillus tuberculosis heredity was supposed to be of great importance as a causal factor of tuberculosis, but its importance is rapidly fading into the distance in the opinion of bacteriologists and phthisiologists, who believe more in the direct contagion theory. Norbury states that "in the light of modern scientific inquiry infection has supplanted direct heredity as the etiological factor *par excellence* in tuberculosis." Direct transmission of the bacillus is claimed to be extremely rare, although authorities agree that this rarity will be less when the observations have been more extensive.

It is claimed that cases of tuberculosis occurring during childhood are due to direct or indirect infection in nearly all cases, statisticians claiming the infection occurs in an increasing ratio during the first and second years of life from 9 to 38 per cent.

The pendulum has been swinging toward the bacillary origin of the disease so long that there is danger of losing sight of the other important causal factor of infectious disease, the condition of the tissues which permit and favor the growth of infectious diseases. It is to protest against neglecting this phase of the subject that urges me to discuss the question in this paper. As physicians whose aim is not only to cure, but prevent disease, we must not neglect to consider the predisposing factors. I stoutly maintain that we must give equal consideration to the two factors—heredity and the bacillus.

Authorities differ as to the percentage of predisposition, but average is about 38 per cent. When we consider that 38 per cent. of the consumptives give an hereditary history of the disease, there need be no apology for presenting the subject for your consideration.

As that master of the subject of the pedigree of disease, Jonathan Hutchinson, says: "We must take cognizance not only of the bacillus itself but also upon the state of the tissues upon which it is implanted. The possibilities of inheritance are twofold. It may be that the bacillus itself may pass bodily or potentially with the sperm or germ from parent to child, or it may be that a condition of tissues liable to its attacks, but for the time free from its presence, may be the result of transmission. If we are permitted to name the tissue condition, which is prone to favor the development of the tubercle bacillus, the name 'scrofula' will perhaps be convenient for the present. A child may then inherit 'scrofula' without the bacillus, or the bacillus without 'scrofula,' or, what probably is most common, both may be present together."

If this view of the heredity of disease is correct, we may take it for granted that the following propositions are admitted: 1. Healthy individuals possess certain degrees of immunity to tuberculosis, as well as other infectious diseases, and this immunity is transmitted to the offspring. 2. If one parent is tuberculous the immunity is weakened; if both parents are tuberculous, the immunity is lessened to a greater degree, and there is engrafted on the progeny a cellular nutritional weakness which permits the invasion of the infective germs. Perhaps it would be more nearly correct if we were to say that such individuals have an "infective predisposition," for they are especially liable to other forms of infection, such as influenza, etc., and their children inherit the same susceptibility. The reason they become tuberculous is because the tubercle bacillus is so omnipresent. 3. Children of tuberculous parents are easily infected, directly or indirectly.

Granted, therefore, that these statements are true, what can be done to prevent the subsequent development of tuberculosis? As Holmes has remarked, the preventive treatment should commence with the ancestors. Stirpiculture, or the improvement of the race, is the most potent means to be used to eventually eradicate tuberculosis. The education of the people in stirpiculture would mean the improvement of the coming generations, but of course has nothing to do with the generation already born. But the knowledge that children born of invalid parents are susceptible of improvement is of great value to the present generation. It is our duty to educate parents how to rear children who are predisposed to tubercular disease.

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* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee of the Section: H. E. Tuley, Edwin Rosenthal and Samuel W. Kelley.

The period of development must be divided into subdivisions: infancy, childhood, youth and maturity. The great aim must be to promote nutrition, to develop the body symmetrically, to educate the mind judiciously, and to inculcate correct habits, physical and moral.

Infancy.—A babe should never be suckled by a tuberculous mother, but by a healthy wet-nurse, or it should be fed with food which is absolutely free from suspicion of being contaminated by the tubercle bacillus. As the babe grows the dietary should contain more fat, and as the salivary glands develop a very slight amount of starchy food should be added. Early a taste for hydrocarbons should be cultivated, so that the patient will not have a repugnance for fatty food as is commonly the case in persons who are inclined to tuberculosis. In a large experience it has been found that consumptives consume an insufficient amount of fat.

As the period of childhood approaches, the diet should contain more carbohydrates, and the inordinate cravings of children for sweets should not be curbed too strictly. In my opinion, pure candy in moderation is beneficial to growing children, if given after and not between meals. A point of not minor importance is the giving of water freely to children. As a rule, children do not drink enough water, as it is a great aid to nutrition, dissolving the food so that it can be more easily digested and assimilated, and acts as a solvent for effete material in the body so that it can be better eliminated.

During the period of childhood the diet should contain a greater proportion of nitrogenous food. Nitrogen supplies muscular force, and the demands upon the muscular system increases with the increasing age of the patient and the entering an occupation of some kind.

The period of puberty is a critical one. The physician should supervise the proper development of the physico-moral nature during this period. Enforced ignorance of the sexual laws prevents youth from seeing through the vista of years and perceiving the woes which follow the abuse of the body at a period when nature is attempting to reinforce it in every way and strengthen it against the future invasion of disease germs. Educate the youth in such necessary physiological laws as will tend to preserve the integrity of all the tissues, and maintain nutrition at its highest point.

Now is the time for education, and it is the time when the mind is apt to receive more training than the body. *Mens sana in corpore sano* is a motto which is forgotten not only by educators but by parents as well. We boast of our public school system, yet there is no method whereby so many budding into maturity can be physically wrecked so readily as by the class method of teaching. The strong and weak are given the same tasks, and the hours are unbroken by physical training, to say nothing of the lack of supervision of the attitude of the scholars in the school room, the want of proper ventilation, and the housing together of children whose vital forces are already lowered by lack of proper food and hygienic home surroundings. It is encouraging to note the tendency of modern school boards to install gymnasia, and employ competent teachers of physical development. Two-thirds of the period of youth is spent in education, and physicians should see that the parents and teachers give each child who has a predisposition to tuberculosis such thought and care in its mental and physical training as will insure health instead of disease. A harmonious and dual development of the mind and body must be secured. Our schoolteachers, as a rule, care more to send the parents reports of the rapid mental development of the children than to supervise the equal mental and physical development.

After the period of education comes the choosing of a vocation. The tuberculous inclined should be advised to choose occupations which would necessitate them to be out of doors the greater part of the time. The open-air occupation, if such that it requires the individual to be active, is the best form of work. Avoid dusty work, and factories, crowded assemblies and violent physical exercises. Newsholme, in his work on vital statistics, states the lowest mortality is in clergymen, railway engine stokers and engineers, farmers, brick-burners, coal merchants, and coal miners. Contrary to what would be believed, coal miners seem to be quite exempt from tuberculosis.

During the time the physician and parent have been guiding the development of the predisposed patient into more perfect maturity, it is necessary to keep in mind that the clothing is a question of importance, especially if the patient be a girl. The whole subject may be compressed in two words: the patient should be *warmly* and *loosely* clad. By warmly clad is meant sufficient clothing to prevent chilling, and meeting the weather changes by different weights of outer clothing. The clothing should be loose enough to permit free exercise and unembarrassed respiration. A child with a predisposition to tuberculosis should not wear a corset, and the mother who attempts to control the outline of her child's figure by the use of the corset is laying the foundation of tubercular infection by interfering with the processes of nutrition and the development of the respiratory functions of the lungs. Thin shoes, insufficient head covering, or deficient underclothing are the stepping-stones to tuberculosis. But on the other hand excessive swaddling of the body, or the neck and chest should be avoided, as it tends to a susceptibility to cold catching, and sudden changes of temperature can not be so well withstood.

Cleanliness is the great preventer of germ infection. A clean consumptive will not spread the infection, and a clean body does not afford so good a lodging-place for the germs. Therefore, the predisposed must avoid contact so far as possible with persons who are consumptive or should not use any articles used by such.

Hydrotherapy is of great value. It stimulates the nutritive processes, steadies the vasomotor nerves so that they are not so susceptible to sudden changes of temperature, and hardens the individual. It is impossible to enter into this subject in detail, but its benefit is so great to the consumptively inclined, that it is the duty of the physician to give his clients the necessary instruction.

It goes without saying that the hygienic surroundings of the patients must be as good as possible. Clean, well-ventilated, comfortable houses, built upon proper soil, and so arranged as to receive the maximum of fresh air and sunshine, afford the best chances for the predisposed.

And here the value of the open-air treatment is made manifest. The fresh-air sanatoria of our larger cities, and the country vacation clubs are doing a great deal of good in lessening the susceptibility of the poor in our midst. The sad part of it is that these provisions are necessarily of short duration. There should be established throughout the land fresh-air sanatoria for the children of tuberculous parents, and for the orphans of tuberculous origin. At the children's hospital at Ormesson, under the auspices of the French society for the care of tuberculous children, 34 per cent. of the cases were cured, and at Villiers the per cent. was 34.4 cured, or nearly cured. France beats the world in caring for children who have consumption, or have the tendency, having over twenty seaside and mountain resorts. But if we have not the sanatoria we can instruct our patients in sanatorial methods. These instructions should include dietetic, hygienic, balneological, physical and therapeutic methods of the well-known sanatoria.

Finally, it is the province of the physician to warn parents of the danger of neglecting the so-called benign children's diseases, such as measles, whooping-cough, influenza, tonsillitis, adenoids, etc. The feeble-minded are especially liable to tubercular disease. The acute diseases may be the preparers of the soil for tubercular infection, and they should not be neglected. *Nutrition* is the foundation stone on which to rear the preventive treatment.

It is impossible in the time allotted to me to crystallize all the thoughts on this subject, but if my theme shall be discussed and its importance magnified, and some practical method of instituting preventive measures throughout the United States whereby the increasing army of consumptives may be lessened, no apology need be offered for the mediocrity of this communication.

DISCUSSION.

Dr. T. F. Wood, Angola, Ind.—The subject has been handled in a way to be commended. I wish, however, the essayist had said something about the prevention of the marriage of individuals who are not only predisposed, but are really consumptives. I believe this is one of the great sources of tuberculous disease, and yet our hands are tied, as it were, regarding that phase of the subject. Many physicians dare not discuss this subject, lest they become unpopular and lose business; nevertheless, it is an important matter, and we should speak without fear or favor on this vital point. To-day the statutes of almost every state allow any person, even in the last stages of consumption, to marry and rear children, and in this way transmit the disease to those yet unborn.

Dr. Wadsworth Warren, Detroit—One point in the latter part of the paper appealed to me especially, and I desire to give it additional emphasis. I refer to the necessity of warning the parents of these children regarding the care of these little ones during an acute infectious disease, or even when they are inflicted only with a mild laryngitis or pharyngitis. Very often these apparently innocent disorders lower the child's powers of resistance so much as to afford a suitable culture medium for the tubercle bacilli; attention to the mouth, throat and pharynx, and to the removal of adenoids and enlarged and patulous tonsils is of great importance.

Dr. James A. Work, Elkhart, Ind.—With reference to clothing, I would say that I believe we should instruct parents more with reference to the changing of the clothing in accordance with the changes in the weather. We know how great and sudden are the changes of the weather in this country, and I think the clothing should be adapted to meet these changes.

Dr. Clifton Scott, Des Moines—The author emphasized the importance of teaching young children in the public schools certain things in regard to abuses which do them harm about the age of puberty. It seems to me that children thus instructed in school would be taught how to prevent the diseases in their own children when they become parents. This can be done by teaching them in the public schools that such persons should not marry. This would be better, in my opinion, than legislation, which will surely increase illegitimacy.

Dr. Columbus G. Slagle, Minneapolis—I desire to lay stress on malnutrition. I have been in the habit of telling my patrons and friends that consumption does not begin in the lungs but in the stomach. This may not sound very scientific, but it appeals to the popular mind, and I think does good by impressing upon them the importance of a proper dietary. Another point is in regard to fats. One of the most practical lessons I ever learned was in the University of Louisville when I was a student. Professor J. B. Flint always asked any one suspected to be tuberculous if he liked fat, and such persons usually replied in the negative. At one time he was examining a patient far advanced in tuberculosis, and this question about fats was, to the surprise of the professor, answered in the affirmative. So surprised was he that the question was repeated and was answered again in the affirmative. The professor then turned to the students, and expressed his belief that the patient had lied. He then went on to impress upon them the importance of tuberculous individuals eating fats, and particularly those persons who had an aversion to fats because ordinarily they were the very ones most likely to fall victims to tuberculosis.

Dr. Collins H. Johnston, Grand Rapids, Mich.—In this connection I desire to speak of a paper published in Virchow's Archiv, in May, 1900, in which it is maintained, on the basis of 500 autopsies performed at Zurich, that 99 per cent. of the human race who attain the age of 30 show, on postmortem, lesions of tuberculosis. From this it would seem that almost every one is infected with tuberculosis at some time or other. I wish to insist that one can not have tuberculosis without the tubercle bacilli. Osler maintains that there are only 20 cases on record of persons who have been born with the disease. Undoubtedly there is a predisposition in certain families to tuberculosis, the same as there is to scarlatina, diphtheria, and other infectious diseases. The one most certain method for the prevention of tuberculosis not only in children but in the community at large is to prevent the dissemination of the tubercle bacillus. This is a matter which rests largely in the hands of the medical profession and state boards of health. The State Board of Health of Michigan in 1891 began a campaign against tuberculosis by disseminating throughout the state literature dealing with this subject. Whenever a case of tuberculosis is reported to the local board of health, it is immediately sent to the secretary of the State Board of Health, and this officer sends literature to the family, explaining in detail the proper methods of caring for sputum. In this way, in the last ten years, the death-rate from pulmonary tuberculosis has been very materially reduced.

Dr. C. A. Kelsey, Minneapolis—I have been exceedingly interested in this paper, and was very glad to see the position taken by the author regarding the necessity for fats. It is a point which we should bear in mind, for I think the majority of persons having children with a tendency to tubercular troubles seem to have the erroneous impression that these children must not have fat. In regard to the valuable remarks of the last speaker, I would say that, if I understand the germ theory, none of us can hope to escape these ubiquitous germs. I do not mean to say that I would discourage taking proper care of the sputa, but does it follow that the diminution in the mortality in the State of Michigan is due wholly to the care of the sputa? Can we not claim something for improved hygiene in fortifying the system against the attack of the germ. In tubercular wards, nurses of good constitution can remain constantly without becoming infected with tuberculosis. Let us not, however, lose sight of the importance of building up and fortifying the system against the attacks of these germs, developing a physical system in the rising generation which can withstand these noxious organisms.

Dr. I. J. K. Golden, Chicago—The main thing in the prevention of tuberculosis among children is to educate them not to be afraid of water. The parents of such children are usually afraid to have their children bathe lest they may catch cold. For the same reason these children are very warmly clad. I am of the opinion that this practice tends rather to favor than to prevent tuberculosis. Tuberculous children should be made to bathe daily, and if not too warmly clad they may not be so susceptible to tuberculosis. I am opposed to the present craze for woolen clothing. If they catch cold, no matter; let them develop a little antitoxin in the system. If laws were passed to prevent the marriage of tuberculous individuals or of those predisposed to this disease, I am afraid there would be nothing but bachelors, and the population of the world would soon vanish.

Dr. Robison, in reply—I am glad that this subject has brought out such a full discussion, and that the paper has received your sanction on most of the points presented. Some of the states have already framed laws regarding the prevention of marriage of the unfit. Most of these laws have been directed towards preventing the marriage of those infected with venereal disease. In time, by the process of education, the people will learn to dread this disease. Within the last five years the newspapers have helped us to educate the public; yet even lawyers and judges and public men know almost nothing about tuberculosis. I think the subject of infectious diseases should be taught in the public schools just as much as botany is taught. Malnutrition is certainly the starting point of tuberculosis. The case ot the woman who liked fats, mentioned by Dr. Scott, seems to me to be the exception which proves the rule. The giving of fat by aiding nutrition prevents the disease. Osler's statistics regarding the transmission of tuberculosis should not be taken as authoritative; for, in the first place, the observations have not extended over a sufficient length of time, and the opportunities for carrying on such investigations are very limited. If you will consult the records of the veterinary surgeons, you will find that the percentage of cases of direct transmission in animals is much larger than 2 per cent., and it is probably true also of the human. The Brompton Hospital for Consumptives has been in existence for two centuries and a half, yet it has been found that the disease is rarely taken by the nurses. In our general hospitals in this country I am sorry to say the internes and nurses do frequently develop tuberculosis. In a hospital in Chicago we have had three internes who have died of tuberculosis in one form or another, although it is quite possible that they may have had the disease before entering the hospital. I will say, however, that the methods of prevention in a general hospital are not so strict as in special hospitals. It is the custom, though obviously wrong, to use a broom in cleaning out the wards of our general hospitals.

TUBERCULOSIS OF ANIMALS IN SOME OF ITS RELATIONS TO HUMAN TUBERCULOSIS.*

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It is not necessary to consume time in demonstrating the importance of a thorough consideration, from every point of view, of the subject of tuberculosis. The importance of such a study is now generally recognized. As smallpox was the great medical problem at the close of the 18th century, so tuberculosis was the most urgent problem at the end of the 19th century. According to Newsholme,[1] smallpox reached its highest point in England in 1796, when 18.5 deaths out of every 100 total deaths were caused by that disease. Tuberculosis was apparently at its maximum in England and Wales in 1838, when 17 deaths out of every 100 total deaths were caused by phthisis,[2] and if the deaths from other forms of tuberculosis could be added the maximum smallpox death-rate of 1796 would be surpassed. The death-rate from tuberculosis, and particularly from phthisis, has been greatly decreased in England and Wales since the date mentioned, but in 1896 the deaths from all forms of tuberculosis still equaled 10.5 out of every 100 total deaths.

At the beginning of the 20th century we find the mortality from smallpox insignificant compared with what it was at the beginning of the 19th century. In England and Wales in 1896 it was as low as 1.8 per million living. That is, there were only as many deaths from smallpox in 1896 among 2,000,000 people as there were among 1000 people in 1796. In other words, there was but one death in 1896 from smallpox where there were 2000 in 1796.

I have dwelt upon these facts with some detail because this tremendous reduction of the death-rate from one of the most serious diseases of mankind was accomplished by a study of one of the diseases of animals and the application of the knowledge thus obtained to human sanitation. This great advance in medical science and in the ability to prevent disease demonstrates the practical value of a knowledge of comparative pathology, and of a sincere effort to apply this knowledge in the formulation of measures for the control of the diseases of man.

Taking up the problem of tuberculosis, we find that the disease is caused by a bacillus so exacting in its conditions of growth that it can hardly be expected, in its virulent form, to multiply elsewhere than in the animal body or under the artificial environment supplied by the laboratory. The source of virulent tubercle bacilli is, therefore, either a person affected with tuberculosis, or one of the lower animals affected with that disease. When we consider the facts which have been demonstrated by the studies of comparative pathology, we can not but be impressed by the conclusion that there is a great culture ground and reservoir for tubercle bacilli outside of the human body, and existing principally in the bodies of the domesticated animals which supply some of the principal articles of human food. This well-known condition of affairs is, it seems to me, sufficient justification for a review of our knowledge of animal tuberculosis and the relation which it bears to the human form of the disease.

We must go abroad for most of the statistics of tuberculosis in animals, and while it is more frequent in European countries than here, we can learn from them as to the conditions which are likely to develop here as the animal population becomes more dense, and providing the spread of the infection remains practically unrestricted. The slaughter-house statistics of Prussia show 14.6 per cent. of the cattle and 2.14 per cent. of the swine to be tuberculous; in Saxony the percentage is 29.13 with cattle and 3.10 with swine; in the city of Leipsic the figures are 36.4 per cent. with cattle and 2.17 per cent. with swine (Siedamgrotzky). Of 20,850 animals in Belgium tested with tuberculin in 1896, 48.88 per cent. reacted (Stubbe). Of 25,439 tested in Denmark from 1893 to 1895, 49.3 per cent. reacted, and of 67,263 tested from 1896 to 1898, 32.8 per cent. reacted (Bang).

The British "Royal Commission appointed to inquire into the effect of food derived from tuberculous animals on human health," which reported in 1895, after giving the statistics of the Copenhagen slaughter-houses, where 17.7 per cent. of the oxen and cows were found tuberculous, and of the Berlin slaughter-houses, where 15.1 per cent. of such animals were tuberculous, continued as follows:

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* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee of the Section.

[1] Vital Statistics, 3d Ed., p. 211.

[2] Dr. Ransome, Lancet, July 11, 1896.

"There do not exist for the United Kingdom any records with which these can be compared. At Copenhagen and Berlin all the meat furnished to the towns is submitted to the inspection of experts. But we have reason to think that the facts about tuberculous animals would exhibit a broad resemblance to the foregoing, if such records could be obtained; not more different in degree, that is, than the difference between the Copenhagen and Berlin records, or than would be explained by variations in the practice of dealing with food animals in one and another country. Such few data as are to be had for the United Kingdom confirm this view." (Report 1, p. 11.)

An examination of 20,930 cattle in Great Britain, either slaughtered and examined postmortem or tested with tuberculin, showed 5441, or 26 per cent., affected with tuberculosis.

It is said that breeding cattle in Great Britain, carried tuberculosis to Denmark in the first half of the 19th century, and that it is now being carried in the same manner to Sweden and Norway (Bang). British cattle are also accused of carrying the disease to Argentine and spreading it among the cattle of that country (Sivori). There has also been discovered a large percentage of tuberculosis among the cattle of Victoria, Australia, where it was probably introduced in the same manner. Some of the largest breeding herds of Canada, also of British origin, have been found badly diseased, and 20 per cent. of the cattle offered for importation into the United States from Canada were found tuberculous.

In the United States our statistics are fragmentary, but sufficient to show that while the disease does not affect as large a proportion of our cattle as have been found affected in European countries, it is nevertheless widely distributed.

From a recent review by Drs. Russell and Hastings, of the Wisconsin Agricultural Experiment Station, of the tests of cattle for tuberculosis made in the United States, the following summary is presented:

	Number Tested.	No. Tuberculous.	Percent. Tuberculous.
Vermont	60,000	2,390	3.9
Massachusetts	24,685	12,443	50.0
Massachusetts, entire herds	4,093	1,080	26.4
Connecticut	6.300	.....	14.2
New York, 1894	947	66	6.9
New York, 1897-98	1,200	163	18.4
Pennsylvania	34,000	4,800	14.1
New Jersey	2,500	.....	21.4
Illinois, 1897-98	929	.....	12.0
Illinois, 1899	3,655	560	15.32
Michigan	.....	.....	13.0
Minnesota	3,430	.....	11.1
Iowa	873	122	13.8
Wisconsin—			
Experiment Station tests:			
Suspected herds	323	115	35.6
Non-suspected herds	935	84	9.0
State Veterinarian's tests:			
Suspected herds	588	191	32.5
Tests of local veterinarians under State Veterinarian on cattle intended for shipment to States requiring tuberculin certificate	3,421	76	2.2

(Bulletin No. 84, Wisconsin Agricultural Experiment Station, March, 1901.)

The State Veterinarian of Pennsylvania, Dr. Pearson, thinks that not over 2 per cent. of the cattle of that state are tuberculous, and probably if a general test of all the cattle of the other states mentioned were made we should find a very much smaller proportion tuberculous than is indicated by this tabular statement. The explanation of the high percentages that have been given is found in the fact that it has been, for the most part, suspected herds which have been tested. Admitting that the greater part of these percentages are too high, we still have revealed a condition which is worthy of our serious consideration.

The classes of cattle most affected are breeding animals and dairy stock. The beef cattle coming to our markets are still singularly free from tuberculosis. Of 4,841,166 cattle slaughtered in the year 1900 under federal inspection, but 5279, or 0.11 per cent. were sufficiently affected to cause the condemnation of any part of the carcass. Of 23,336,884 hogs similarly inspected, 5440 were sufficiently affected to cause condemnation of some part of the carcass. This is equal to .023 per cent., or slightly more than one-fifth the proportion found in beef cattle. It is scarcely necessary to add that there are certain lots of cattle and hogs encountered which are affected in much greater proportion than the general average just given.

With swine, tuberculosis is a disease generally contracted from the ingestion of infected food, and hence as the disease is allowed to spread among cattle it will become more frequent with the swine that eat the skim-milk, buttermilk and other waste products of the dairies. In these animals the disease is more acute and has a much greater tendency to generalization than with cattle, and consequently there is more danger of the meat becoming infected.

Tuberculosis is not pre-eminently a disease of poor, neglected, underfed scrub cattle, for the better class of cattle have suffered perhaps to a greater degree. Being constantly imported with pure-bred stock, it has been introduced into the best herds and has extended from them to the dairy herds and common cattle. It was said in an official investigation of one of the most noted Canadian herds, that wherever animals from that herd had been taken to improve the native stock, there tuberculosis was found among the farmers' cattle.

A brief list of infected herds which have been carefully studied may be useful in showing the extent to which the disease develops and the difficulty of building up a herd of good cattle under the best conditions and keeping it free from this disease:

	Number in herd.	Number. tuberc.	Percent. tuberc.
Soldiers' Home, Washington, D.C.	63	53	84
Mass. Agricultural College (See 1)	32	25	78
New Jersey Agr'l Exp't Station	42	25	60
Vermont " " "	33	21	64
Ohio " " "	30	14	46
Texas " " "	21	10	48
Wisconsin " " " (See 2)	30	26	86
Kansas Agricultural College	56	15	27
Government Hospital for Insane, Washington, D. C. (See 3)	102	79	77

Maine Agricultural Experiment Station: So badly diseased that entire herd was slaughtered in 1886.

1. This test was made in 1894; 18 animals had previously been killed in 1891-92, and 9 in 1893, to check the progress of the disease.

2. At the time of the test two animals had been isolated, one for chronic nasal discharge and one for indurated udder. Aside from these two there was no reason to suspect but that the herd was in good condition and as free from disease as the average.

3. Thirteen of the animals in this herd had recently been purchased and were all free from the disease. Excluding these, 90 per cent. of the herd was tuberculous.

There is little doubt but that tuberculosis in cattle and swine has been increasing in this country as well as in most other countries during recent years. This is shown by slaughter-house statistics and official inquiries. There appears to be no climate and no method of handling cattle which entirely arrests the spread of the disease. In the Argentine Republic it is held that the native cattle were free from it until it was introduced by the British breeds of beef cattle, and that it has spread among the native animals in proportion to the improved breeding stock which has been used (Sivori). In Australia and New Zealand the slaughter-house statistics, according to official reports, show as high as 3.5 to 4.5 per cent. of the adult cattle tuberculous. Considering that in these countries the cattle live in the open air and that the climate of Australia has been considered a remarkably favorable one for tuberculous people, we can not avoid the conclusion that our beef cattle, even on the western plains, are liable to have the disease propagated among them by the use of tuberculous breeding stock. At present the statistics of Buenos Ayres show almost three times the percentage of tuberculosis which is found in the average of our Federal meat inspection, while in Australia and New Zealand thirty to forty times our percentage has been reported.

These facts indicate the insidious and constant progress of this fatal disease among meat-producing animals in the most varied climates and under all conditions. The tuberculin tests made in Minnesota, Iowa, Nebraska, Kansas and California, and information received from Montana, Utah and some other states of the Rocky Mountain region, indicate that we have no climate in the United States so favorable that it may be relied upon to save our cattle from tuberculosis if the contagion is introduced among them.

The importance of maintaining the source of our food supply free from the contamination of any disease is no doubt appreciated by every physician; but when the disease which threatens it is communicable, fatal to man, and surpasses all other diseases in the mortality which it causes in the human race, are we likely to exaggerate its seriousness or to urge with too great insistence its effectual control?

This brings us to the question of the transmission of tuberculosis from animals to man, and here we find the most divergent opinions even among those who have given considerable attention to the subject. In the most superficial examination of the question, we must be impressed with the fact that in the domesticated animals we have a great breeding ground and reservoir for the bacilli of tuberculosis, which is at this time practically beyond the reach of the physician and health officer. Is this accumulation of tubercle bacilli dangerous to man when he works in the germ-laden air of the infected buildings, caring for the cattle, milking the cows, and cleaning the stables; or, above all, when he handles the infected products and takes them into his stomach as food?

It has been pointed out by investigators that there are slight differences in the morphologic and physiologic characters of the human and bovine tubercle bacillus, that the bovine bacillus is more virulent for experimental animals, and that the human bacillus is inoculated with difficulty upon cattle and usually produces a circumscribed and mild disease. From this there has been a tendency to conclude that human and bovine tuberculosis are distinct diseases and that animal tuberculosis may be neglected as a source of the human disease. This reasoning it appears to me is most unsafe and illogical.

There is probably no pathogenic microbe which undergoes greater modifications in the laboratory under various conditions of environment than the tubercle bacillus, and this is illustrated by the difficulty with which the first cultures from the diseased subject are obtained, and the ease with which it is grown upon a variety of media after it has been gradually accustomed to the changed conditions of existence. If it so readily varies its requirements in the laboratory, is it not reasonable to suppose that it may in an equally short period be modified to as great or to a greater extent in the bodies of different animals? And, if the bovine bacillus is more virulent for cattle, sheep, goats, swine, guinea-pigs and rabbits than is the human bacillus, may it not also be more virulent for man?

The frequent exposure of man to the bovine bacillus is demonstrated beyond doubt. That the air of infected cow stables is a bearer of the bacillus is abundantly proved by the spread of the disease among the cattle in such stables, since postmortem examination proves the majority of infections among cows are through the respiratory organs. The muscular tissues of animals probably do not contain the bacilli in sufficient numbers to be infective except in the case of generalized tuberculosis. The cases of generalized tuberculosis are not rare. In Germany, out of 482,501 tuberculous cattle, 12,017, or 2.8 per cent., were condemned for generalized tuberculosis (Siedamgrotzky); and Nocard states that of 43,000 cases 10.7 were generalized. In addition to the distribution of the bacilli through the blood in generalized tuberculosis, it has been shown that there is considerable danger of the flesh of other advanced cases being infected by contact with the diseased organs and by smearing with tuberculous material from the knives of butchers (Report Royal Commission, Great Britain, 1895, p. 14).

The infectiousness of milk from tuberculous cows has been frequently proved by microscopic examination, by inoculation and by feeding experiments. The one point about which there has been some difference of opinion is as to whether a cow with a clinically healthy udder can give infectious milk. It is generally admitted from slaughter-house statistics that from 1 to 2 per cent. of tuberculous cows have tubercular deposits in the udder. These statistics are not absolutely accurate because they are not usually made with that thoroughness which is required to discover all of the minute lesions, and also because in many cases while the number of tuberculous udders is given the total number of tuberculous animals includes calves, and sometimes bulls and steers. The percentage of cases in which the udder is affected must therefore actually be greater than the figures just given.

If we could be certain that not more than one or two animals among 100 tuberculous cows would give infectious milk, that fact would be somewhat reassuring; although, as Virchow said in his address before the International Tuberculosis Congress of Berlin in 1899, the tubercular lesions may directly involve the milk ducts, in which case thousands of bacilli may be carried in the milk, and a single cow in such condition may be sufficient to infect the people of a whole village, or even more (Report, p. 349).

Careful researches of competent investigators indicate, however, that a much larger proportion of tuberculous cows yield infectious milk than is admitted to have diseased udders. Bollinger, Stein, Bang, Hirschberger, Ernst, Smith and Schroeder, Rabinowitsch and Kempner, Ravenel, Gehrmann and Nörgaard have all found the milk infectious when no lesions could be discovered in the udder. These investigations cover a considerable number of cows, and as infectious milk was obtained in from 6.5 per cent. to 66.6 per cent. of the animals, they prove either that the udder is affected in a much larger proportion of cases than has been admitted or that many cows with sound udders excrete tubercle bacilli in the milk.

It is not probable that so many investigators would overlook tuberculosis of the udder if it existed, and reach a faulty conclusion, but if we admit that this did occur, we must also admit that such an error is much more likely to happen in the ordinary slaughter-house examinations, and that consequently the frequency of tuberculosis of the mammary glands should be placed at 10, 15 or 20 per cent. of the diseased animals, instead of 1 or 2 per cent. as at present. Dismissing the question as to whether the udder was affected in all of these cases, the practical conclusion of the sanitarian is not changed, and that is that the milk is infectious with a large proportion of tuberculous cows and that with many of these no disease of the udder can be found in the living animal.

The milk of such animals produces tuberculosis in guinea-pigs, swine and calves when fed to them; will it have the same effect when taken into the digestive apparatus of man? In other words, is bovine tuberculosis communicable to man? There are many cases on record indicating this communicability, but I have space to refer briefly to but a very few.

Two veterinarians of Pennsylvania have been reported to me as infected by making postmortem examinations on tuberculous cows. In both, local tuberculosis developed and the tubercle bacilli were demonstrated in the excised tissue. In another similar case in the same state, the character of the lesion was demonstrated by the inoculation of guinea-pigs.[3] L. Pfeiffer cites the case of Veterinarian Moses, 34 years old, of healthy family, and personally in good health, who pricked his left thumb in making an autopsy on a tuberculous cow. The point of the knife probably penetrated into the articulation of the first and second phalanges. The puncture healed without suppuration, but at the end of six months there formed at the seat of the cicatrix a cutaneous tubercle, and the joint was removed. Soon afterward the patient began to cough and died of phthisis eighteen months after the accident. On opening the articulation of the thumb it was found filled with caseous masses, extraordinarily rich in bacilli. A similar case in the United States was brought to my attention by Dr. M. P. Ravenel. The case occurred in the practice of Dr. M. B. Hartzell and was partially reported to this Association in June, 1897. The patient, a man in excellent health and weighing 175 pounds, was employed by a railroad company to work upon cars used for the transportation of cattle. He was wounded upon the back of the hand by a piece of broken woodwork of a car, and typical verrucous tuberculosis developed locally. This was apparently successfully treated by Dr. Hartzell. Within a year the patient's general health changed greatly; he was emaciated, had a persistent and frequent cough with abundant expectoration, and there was decided dulness at the left apex with numerous râles. Death soon resulted from general tuberculosis. A very interesting case of "primary subcutaneous tuberculosis," caused by the topical application of cream, was reported by Dr. A. Grothan.[4] The family was using the milk of one cow only, and inoculations of two rabbits with milk and cream from this cow caused tuberculosis in each.

These are very clear cases and sufficient to demonstrate the communicability of bovine tuberculosis to man, and they indicate that bacilli from a bovine source are at least as virulent for man as are bacilli from a human subject.

Now, we are asked, if bovine tuberculosis is dangerous to man, and is increasing, how is it that consumption or phthisis is decreasing? It appears to me quite conceivable that the conditions of life, and above all of sanitation, may be so improved that their influence will more than counteract the increasing danger from the extension of bovine tuberculosis. But quite aside from this, it must be admitted that phthisis, or tuberculosis of the lungs, is usually contracted by inhaling the infection, while if the disease is communicated through the food it would probably take some other form (tabes mesenterica, tubercular meningitis, etc.). It is clear, then, that in estimating the effect of increasing bovine tuberculosis we must make a distinction between phthisis and other forms of tubercular disease.

Sir Richard Thorne-Thorne, in the Harben Lectures for 1898, has made this very clear. He shows from the statistics of England and Wales that between the periods 1851-1860 and 1891-1895 there has been a reduction of the mortality at all ages from phthisis of 45.4 per cent.; while from all forms of tuberculosis the reduction has been distinctly less, viz., 39.1 per cent. Taking that form of disease registered under the name of "tabes mesenterica," the reduction at all ages has been but 8.5 per cent.; under five years of age the reduction has been but 3 per cent., while under one year of age there has been an actual increase of 27.7 per cent. This is the milk-drinking age, and the increase of the mortality is very significant at a time when phthisis has been so remarkably reduced. Making all proper allowances for errors in diagnosis among the returns for tabes mesenterica, it is still apparent that there are altogether different influences at work in the causation of this disease from what are usual with phthisis.

The conclusions which naturally follow from these statistics are so different from what has been generally held, that numerous attempts have been made to counteract them. Dr. George F. Still[5] recorded "Observations on the Morbid Anatomy of Tuberculosis in Childhood," in which he gave a résumé of the results of 769 consecutive autopsies on children. Of these 269 presented lesions of tuberculosis, but death was due in 43 of these to some other cause. The channels of infection in the 269 cases were as follows: Lung 105, intestine 53, ear 9, bones or joints 5, while the remainder were more or less uncertain. That is, the intestinal infections were to the others as 1 to 2.1. With the class of cases where death was caused by some other disease and where the tuberculosis was either arrested in an early stage or had not progressed beyond the initial stage, affording almost indisputable evidence of the method of infection, the infections were by the lung 26, by the intestine 16, by the ear 1. Here the intestinal infections were to the others as 1 to 1.7. In the English statistics the cases of tabes mesenterica in children five years and under are to the other forms of tuberculosis as 1 to 1.6. Dr. Still's observations are, therefore, a singular endorsement of the accuracy of the returns under the name of tabes mesenterica, and as the ages of the children covered by his autopsies were twelve years and under, he has really found a larger percentage of intestinal infection than is indicated by the statistics.

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[3] Ravenel: Phila. Med. Jour., July 21, 1900.

[4] Omaha Clinic, February, 1896.

[5] Brit. Med. Jour., Aug. 19, 1899, p. 455.

Dr. J. Walter Carr also referred to statistics of necropsies on tuberculous children at the Victoria Hospital.[6] He found 79 in which the disease most probably started in the chest, and 20 in which it seemed to have begun in the abdomen. Here the relation between the two forms of infection is as 1 to 4. In 26 children of early or limited tuberculosis, the thorax was alone affected in 12 cases, the abdomen in 7, being in the proportion of 1 to 1.7. Of 53 tuberculous children under two years of age the disease most probably began in the chest in 43 and in only 5 certainly in the abdomen, the proportion in this case being as 1 to 8.4. Out of 27 children over five years of age, the disease began in the chest in 12, in the abdomen in 6, the relation being as 1 to 2.

These statistics being all from English sources, are fairly comparable, and it appears to me they sustain Dr. Thorne's contention that the returns in England of tabes mesenterica represent with fair accuracy the abdominal tuberculosis of children.

Bollinger, in his address at the International Tuberculosis Congress of Berlin, in 1899, quoted with approval the record of autopsies by Heller (Kiel) of 248 tuberculous children which showed in 45.5 per cent. of the cases tuberculosis of the mesenteric glands. From these it was concluded that milk played a leading rôle in the so-called transmitted tuberculosis of children.

It is plain from what has been said, without quoting further statistics, that in some countries where bovine tuberculosis is very frequent, there is also great frequency of tuberculosis in children. Bollinger concludes that "although the tuberculosis of cattle and swine do not stand in the first line as source and starting-point of human tuberculosis, nevertheless—considering their enormous distribution and progressive additions, and the great danger from the ingestion of the milk of tuberculous cows—they are certainly for humanity the most important and most dangerous of all animal plagues and deserve the most earnest attention from the sanitarian and the state."

Admitting the subordinate rôle played by digestive infection in human tuberculosis, admitting that in England there is but one such case to nine cases of all forms of tuberculosis, still the matter is one deserving the most careful consideration of the sanitarian. But the harm does not stop with the cases directly infected by food, since these may in turn cause secondary infections and thus give rise to a series of unlimited extent.

It is not my purpose to exaggerate in the least the danger from animal tuberculosis, but there has unfortunately been a tendency in recent years to make light of this danger. Let us take facts as our guide and not be unduly influenced by personal opinions. If it can be shown, as I believe it has been, that animal tuberculosis may be communicated to man, then the presence of vast numbers of tuberculous animals in a country must be looked upon as a source of danger and one which it is our duty, as sanitarians and as citizens, to do our utmost to abolish.

RELATIONS OF HYPERCHLORHYDRIA TO "BILIOUS ATTACKS," SOME FORMS OF ECZEMA, GOUT, AND MUSCULAR RHEUMATISM.—PRELIMINARY REPORT.*

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Hyperacidity of the stomach is a common disturbance of secretion. The frequency of its occurrence is very difficult to determine, as there is no doubt that a moderate excessive secretion of hydrochloric acid may take place without producing subjective symptoms. I have on several occasions examined the gastric contents of patients with apparently normal digestion and found excess of hydrochloric acid, although in some of them there was a history of "bilious attacks," which were probably attacks of acute hyperacidity. It seems to me, therefore, that the gastric distress which is present in cases of hyperacidity is more or less due to the hyperesthesia of the mucous membrane of the stomach as well as to the excessive acid contents. This opinion is supported by the fact that in many cases of hyperchlorhydria pain comes on in a few minutes after the ingestion of food of any form. The commingling of these two neuroses—hyperchlorhydria and hyperesthesia gastrica—makes an investigation into the relations of the former to "bilious attacks," eczema, muscular rheumatism and gout a very difficult one, as I can not help but think that a general irritable condition of the gastric nerves must produce some changes in the sympathetic and cerebrospinal centers, which would no doubt lead or tend to lead to diseases in other organs. The investigation is also difficult because even if we find hyperchlorhydria associated with diseases of some other organ we have still to determine which was diseased primarily, or whether both pathologic conditions were not secondary to a disease in some other organ of the body, such as uremia, uratemia, nicotin poisoning, neurasthenia, etc.

My attention was first called to the subject about two years ago. I observed the internal treatment, both dietetic and medicinal, which I was accustomed to use in cases of hyperchlorhydria, was approximately the same as that which I was using in some forms of acute eczema and in both cases it gave very satisfactory results. I then determined to investigate the relations of these two diseases and latterly I have extended the research to the whole subject-matter of my paper.

Before I give results of my observations, I wish to discuss and offer some suggestions as to how hyperchlorhydria may cause disease in other organs of the body. We know that the amount of blood in the portal system increases during the process of digestion. I think I am safe in stating that the more active the secretion of the stomach and intestines the greater the inflow of blood to the gastro-intestinal area. All the blood which enters the portal system must pass through the liver and hence the hyperemia of the stomach which occurs in hyperchlorhydria would tend to produce active congestion of the liver. The same pathologic condition might also be produced by the absorption of the toxic substances, the products of the disturbed digestion, produced by the hyperchlorhydria. Thus we know that an excessive acid secretion interferes with the digestion of starch and does not interfere with at least some forms of fermentation. I have frequently observed considerable quantity of yeasts in gastric contents with normal hydrochloric acidity or even hyperacidity. I do not think that the secretion of hydrochloric acid bore any causal relation to the presence of yeast, as the growth of the latter no doubt resulted from the retention of food. If yeast can grow in the presence of HCl, then it is probable that the latter will not have any deterrent action affecting the growth of some other forms of germs in presence of a suitable pabulum, and in all cases substances with variable degrees of toxicity would be produced and gain admittance to the portal circulation. Fermentation and putrefaction in the intestines are of frequent occurrence in cases of hyperchlorhydria and probably result from the inflowing of the highly acid chyme containing large quantities of unchanged starch. The toxic substance thus produced would also be carried to the liver. We should also remember that these poisonous chemical bodies may not only cause active congestion of the liver but, changed or unchanged in constitution, pass on into the general circulation to produce disease in other organs. If active congestion of the liver results from the absorption of toxic substance from the stomach and intestines as well as from an excessive inflow of blood to the portal circulation, we have still to discuss the effects of pathologic hyperemia of the liver on the system in general. We know that the liver has varied and complex functions. It is at the same time a digestive, an excretory and assimilative organ, and it would be quite natural for these functions to be disturbed by an excessive inflow of blood laden with toxic substances or even with an excess of food products. Defective metabolism might lead to an excess of urates in the blood and I believe that this is the case in hyperchlorhydria.

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[6] Brit. Med. Jour., Sept. 2, 1899, p. 626.

* Read before Ontario Medical Society, June, 1901.

HYPERCHLORHYDRIA AND "BILIOUS ATTACKS."

When a patient complains of such subjective symptoms as headache, nausea, pain and discomfort in the region of the stomach, acid eructations, bitter taste in the mouth, disinclination to work, the diagnosis of bilious attacks is frequently made, particularly if the symptoms follow excessive eating or drinking. According to my experience, these attacks are very frequent in cases of chronic hyperchlorhydria, although they are not infrequent in patients who do not give a history of chronic indigestion. With the object of determining the activity of the secretion of HCl in this condition I produced emesis in a patient with the above symptoms one hour and a half after partaking of a breakfast of three pieces of toast and a cup of coffee and examined the vomit. The total acidity and free HCl were 72 and 32 respectively, showing the presence of hyperchlorhydria. The patient had suffered from severe similar attacks previously, but they were of short duration, and in the intervals he had fairly good digestion. I think, therefore, that this was a case of acute hyperchlorhydria due to irritation of food which he had eaten a day or two previously, or an exacerbation of a mild form of hyperchlorhydria.

RELATIONS OF HYPERCHLORHYDRIA AND SOME FORMS OF ECZEMA.

That hyperacidity of the stomach bears some casual relation to some types of eczema I have no doubt. I am equally confident that there are cases of eczema occurring in persons with normal digestions. According to my experience symptoms of indigestion are of frequent occurrence in eczema, and are usually of the character that indicates hyperchlorhydria. In addition, I have examined the gastric contents of six cases of eczema with symptoms of dyspepsia; in five of these there was an excess of HCl in the gastric contents, the remaining case having normal acidity. Moreover, the internal treatment of acute irritable eczema which usually gives me the best results is about the same as that which I find most successful in cases of hyperchlorhydria.

I am unable to say in what manner the eczema is produced by the hyperchlorhydria, but I have some data which point to an excess of uric acid in with blood as the direct causative agent, and I have suggested in a previous part of my paper that the hyperchlorhydria may be the cause of the uratemia. However, I shall content myself for the present by reporting short clinical histories of some cases in practice which appear to indicate a relationship between these diseases.

Case 1.—H. M., aged 42, market gardener, consulted me in the spring of 1900 on account of an eruption on his face, forearms, backs of hands, and fingers. His previous health had been fairly good, although he had suffered considerably from indigestion for two years before he came to me. He complained of heartburn, heaviness and slight pain after eating. His tongue was heavily coated and his bowels were constipated. The appetite was fairly good. The eruption on account of which he sought advice began two weeks previously on the backs of the hands; it then extended to the fingers and forearms, and lastly to the face. The rash had all the characters of acute vesicular eczema. I gave the patient a test breakfast and an analysis of the gastric contents revealed the presence of hyperchlorhydria. The patient was treated as follows: a mixture of black wash and calamin lotion was applied to the eczematous patches and the diet and internal medicine were the same as those indicated in hyperchlorhydria. Under this treatment he made a rapid and complete recovery from both the eczema and indigestion.

Case 2.—A. B., physician, for twenty years has had eczema and for as long as he can remember has suffered at times from indigestion. The eczema began on scalp and those parts of the face covered with beard. The first attack extended to nearly every part of the surface of body. The eczematous patches of the surface were red and scaling, and occasionally moist. When he was a boy if he ate pickles, lemons, or other acid substances he suffered from heartburn, but of late years the indigestion has been at times much more severe in character. When I examined the patient last autumn, I found that the scalp, neck, trunk, and popliteal spaces were the seats of the eczematous patches. A few of the diseased areas were moist, but most of them were dry and scaly. The patches on the trunk were of various sizes with well-defined borders and had all the objective signs of seborrheic eczema or seborrhea corporis, but the subjective symptoms were somewhat more severe than those which are generally present in cases of seborrheic eczema.

As the patient was suffering considerably from indigestion I gave him a test breakfast and analyzed the gastric contents. The total acidity and free HCl were 120 and 73 respectively; mucus slightly increased; digestion of starch very poor. The patient was therefore given an internal treatment suitable for hyperchlorhydria and an external treatment suitable for seborrheic eczema. We found that the lesions were very irritable. A mild resorcin and sulphur ointment, usually so effective in seborrheic eczema, was not tolerated; but an ointment containing 8 grains of ammoniated mercury and 1 ounce of zinc oxid to an ounce of cold cream appeared to be soothing to the affected parts. Under this treatment a rapid improvement in the condition of the patient took place and two months later the rash had completely disappeared. I am of the opinion, therefore, that this was a case of seborrheic eczema aggravated by the irritable condition of the stomach.

Case 3.—S. W., male, aged 27, came to see me on June 10, 1901. He told me that he had suffered from eczema of the face for over two years. On inquiring I also ascertained that he frequently suffered from heartburn, pain after eating, belching and other symptoms of indigestion. His face and ears were nearly covered with red scaly patches and his left cheek was considerably swollen. He also suffered from seborrhea of the scalp and alopecia furfuracea. I considered this a case of seborrheic eczema aggravated by hyperchlorhydria and prescribed accordingly. The rapid disappearance of the edema and the marked improvement in the scaly patches appear to support my diagnosis.

Case 4.—A woman, aged 50, came to see me in December, 1900, complaining of an eruption on the backs of her hands. She was full-blooded and had had her menopause about three years previously. She said that she had had indigestion for years, but the symptoms, discomfort after eating, belching, acid eructations, did not worry her very much as her appetite was fair and her general health was good. An examination of the lesions convinced me that it was a case of acute weeping eczema, and analysis of the gastric contents revealed the presence of hyperchlorhydria. The stomach was not displaced. I estimated the quantity of uric acid passed in a day to be 12.5 grains. I tried Garrod's test for uric acid in the blood and obtained a positive result.

The treatment of this patient was very similar to Case 1. A mixture of black wash and calamin lotion was at first applied to hands. When the parts became dry I used Lassar's paste. Internally I gave an alkalin mixture and a light non-irritating diet.

Case 5.—A. T., female, aged 40, came to my skin clinic at St. Michael's Hospital, June 5. She complained of an eruption on her thighs and face. She stated that the rash began on her thighs two years previously and about the same time she also began to suffer from indigestion—pain after eating, acid eructations, etc. Her digestion had improved of late, but the eruption was still on her thighs and had recently extended to her face.

An examination of the patient revealed the presence of scaly, eczematous patches on the thighs and an edematous erythematous eczema on the face. The blood was tested for uric acid by means of the thread-test and a marked deposit of uric acid crystals was obtained The patient was given a mixture of potassium bicarbonate, sodium salicylate, tincture of nux vomica and fluid extract of cascara sagrada aromatica before meals and a diet of bread, butter, milk and rice. In five days the eczema had completely disappeared from her face and in two weeks had nearly disappeared from her thighs. I then ordered a weak tar ointment, which in a few days effected a cure.

RELATIONS OF HYPERCHLORHYDRIA AND GOUT.

Disorders of the digestive system are of frequent occurrence in gout. All writers on the subject agree that excessive eating and drinking are important etiologic factors. They also agree that gout frequently gives rise to indigestion. "Acidity" is a common symptom in gouty subjects, and it has hitherto been held that the acid in the gastric contents was usually due to organic acids and not to hydrochloric acid. I believe that a thorough investigation of the subject would prove that this opinion is incorrect. We know that a similar erroneous idea was until recently held with regard to all cases of gastric indigestion. Deficiency and not excess of gastric secretion was said to be usually present in cases of dyspepsia. Even so distinguished a writer as Lauder Brunton, in his article in Clifford Allbutt's "System of Medicine," holds the same view. I know that this opinion is incorrect with regard to the dyspeptics in Toronto. During the last three years I must have examined the gastric contents of at least 300 patients and hyperchlorhydria was much more frequently present than hypochlorhydria.

The investigation of the relations of hyperchlorhydria to gout is somewhat difficult in this country, as according to my experience podagra is uncommon, while irregular gout is very common, but difficult to diagnose, particularly when not preceded by a history of gout in the foot. I have only examined the gastric contents of one patient with a history of regular gout, and he had marked hyperchlorhydria; but the subjective symptoms, referred to the stomach, which have been described to me by gouty patients, and which are generally held to be characteristic of the disease, are very similar to those of hyperchlorhydria. Again the etiologies resemble each other in some particulars. We know that excessive eating and daily use of alcoholic liquors in those who lead sedentary lives dispose to gout, and these are the same habits which are active agents in the production of hyperchlorhydria and hyperesthenic gastritis. It seems to me, therefore, that the relation between the two diseases is a subject worthy of investigation. If uratemia is shown to be present in cases of hyperchlorhydria then at least one important factor in the etiology of gout will have been determined.

RELATION OF HYPERCHLORHYDRIA AND MUSCULAR RHEUMATISM.

We know very little about the etiology of muscular rheumatism. Exposure to cold is no doubt a contributing factor. Clinical experience teaches us that muscular rheumatism and gout are in some way related. It is probable, therefore, that patients with muscular rheumatism may suffer from a mild degree of uratemia.

In regard to relations of hyperchlorhydria and muscular rheumatism, I have observed that they are frequently associated, but whether the muscular rheumatism is the result of the hyperchlorhydria, I am at the present unable to say.

URIC ACID INFLAMMATION OF THE MIDDLE EAR, MEMBRANA TYMPANI AND MASTOID.

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I maintain that nine-tenths of all the inflammations of the ear and mastoid, as observed in the Northwest, are due to uric acid poisoning. In using this term, "uric acid poisoning," I mean to include its various compounds, and purely for convenience sake the several products of insufficient digestion as well as some results of faulty tissue metabolism.

Uric acid inflammation of the ear occurs in summer and winter, but most frequently in late winter and early spring, and affects persons of all ages—babies in arms and the old as well. Those affected, according to my observation, have always been persons who ate nitrogenous food in excess of their requirements. The adults were meat-eaters, often almost to the exclusion of vegetables, and the babies were bottle-fed. Further, there is generally a distinct history of gout or rheumatism, but more especially intestinal disorder due to fermentation or putrefaction. The following may serve as a type of this class of disease: The patient has not felt very well for a day or so; there is apt to have been some alimentary disturbance; he has had chilly sensations, or even a distinct chill; there is always elevation of the temperature, sometimes 103 or more and sometimes the fever is very slight; the urine is scant and high-colored; the patient is apt to be awakened in the night by a pain in the ear, more or less considerable. If the patient is seen early, the surgeon finds, always at the junction of the membrane with the external auditory canal, one or more blisters; these may be in number from one to seven or eight, nearly transparent or blood-colored. The site of election is the posterior and superior junction of the membrana tympani and external auditory canal. In mild cases the membrane is reddened only, in the immediate vicinity of the blisters; usually when seen the sharp pain will have ceased, leaving only the sensation of discomfort, if the crop of vesicles has fully formed; though several successive crops may appear. If the constitutional derangement has been very considerable, the blisters involve more of the tissue of the membrana tympani, and there is usually a livid red coloration, with some general swelling of the attic membrane, with more constant aching. If the disease is what I call of the third degree, not only is there great swelling of the attic membrane and cells, but there is extravasation and swelling of the skin of the external canal, reaching in many instances even to the external meatus. The pain is excruciating; the tongue is coated; there is apt to be high fever and the whole side of the head is painful. The uranalysis discloses a condition identical with that found in acute rheumatic inflammations of other parts of the body. In this form of the disease, even in the very beginning, there is apt to be tenderness over the mastoid, at first confined to the tip and later involving the whole bone; this tenderness may remain, or it may, under appropriate treatment, disappear with a subsidence of the other inflammatory conditions. In a certain percentage of cases, however, the tenderness increases, to be followed later by a well-marked edema and other accompaniments of mastoiditis, if it has not been operated on before. I have, upon operating in very recent cases, in which tenderness of the mastoid had been prominent for a few days only, found pus in the mastoid cells and none in the antrum. I am of the opinion that the invasion occurred from without inward, and in time there would have been an occupation of the entire bone. The inflammation may go on to rapid involvement of the entire petrous portion of the temporal bone, with very little or no discharge from the ear. There is no sore throat or acute infection of the nasopharyngeal space. There is, however, not infrequently pain of a rheumatic nature in other parts of the body, and there may be very serious involvement of other organs; here is such a case:

Baby X. had an acute inflammation of both membranes (with an acute affection of the hip joint); there was very great swelling, so that the external auditory canal was closed on both sides; there was no discharge of pus, but a constant oozing of blood and bloody serum. In a day or so the gums became much inflamed and bled freely, simulating mercurial gingivitis. My confrère, Dr. Gillette, although he later made a diagnosis of inherited syphilis, had not at that time given any mercury. This child entirely recovered; having among other things, received iodid of potassium, but there is no evidence of inherited syphilis apparent. It is now ten years or more since the illness described.

There is a form of the disease, a subacute inflammation of the attic; not much pain, some redness and a little swelling, a sensation of fulness and discomfort, especially if the patient lie on that side.

The treatment should consist in the very free exhibition of salicylic acid in some form, alone or in combination, opium in full and sufficient doses; free incision of the attic membrane and of all blebs, if the disease is progressing. The blebs or the attic would, however, better be left alone if the pain is less than it had been and the local manifestations apparently at a standstill; there being comparatively little pain, or no very great tension.

If, however, the inflammation seems to be increasing and the pain very intense, and especially if it is continuous, patient should be anesthetized and all blisters, together with the attic, opened freely. Mere tenderness of the tip of the mastoid, I hold to be insufficient to warrant operation on the mastoid, but the moment there is marked tenderness over the upper part of the process, even before there is bulging of the posterior superior wall of the canal, I deem it most prudent to operate, and regardless of the fact that the active inflammation may have existed for a short time only.

Generally it is better to enter the antrum, though in many cases pus is found only in the external cells, and a majority of cases do well if only these are cleared out. The middle ear should not be entered during the operation. Even when the antrum itself is not opened, the discharge, as a rule, very soon ceases; the swelling of the tympanic membrane subsides and the patient rapidly recovers, with hearing but little impaired. I think that the dental engine and a set of appropriate burrs are by all means the proper instruments for operations on the mastoid. Except for the beginning, the burrs should not be very sharp, for then there is no danger of wounding the dura or the membranous wall of a sinus. The patient may be up and about at the end of a week, and in a month, if things go well, the wound of the operation is closed.

To recapitulate, I believe in the gouty or rheumatic nature of the greater number of acute and even chronic inflammations of the ear, and that they should all receive appropriate constitutional treatment. Though I use ice and other local measures freely, I think that no case will do so well without as with the salicylates. I rather prefer the powdered opium, and insist on its exhibition in doses sufficient to relieve the pain, which in itself goes far toward curing the disease. If, however, in spite of this treatment, the mastoid should become involved, I believe that it should be opened at once.

Finally, while I know that the statement will provoke a smile, I believe that chronic catarrhal otitis media is of uric acid origin and should be so treated.

Extreme Obesity.—Erastus H. Lewis, of Jersey City, N. J., died August 17, aged 57. He weighed 440 pounds when he died, and often prided himself on once tipping the scales at 520 pounds. His occupation was at first that of a train dispatcher for the Erie Railroad, but this he was obliged to resign on account of his unwieldiness and ignorance of telegraphy. When first elected president of the Fat Men's Club the combined weight of forty of its members reached nearly five tons. A diseased liver is given as the cause of his death.

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ANTITOXIC AND BACTERICIDAL IMMUNITY.

The modern teachings in immunity distinguish clearly between antitoxic and bactericidal actions. Antitoxins render the toxins harmless by continuing with them, but have no influence upon the corresponding bacteria, whereas bactericidal substances destroy living bacteria without affecting the toxins of the latter. By combining with the toxin the antitoxin prevents the toxin from uniting with those cells in the body for which it is poisonous. By experiment Ehrlich and his pupils have shown that toxins have at least two groups or chains of molecules, one toxophorous which carries the active toxin, and one haptophorous which has a high degree of affinity for the antitoxin and also for certain animal cells. According to Ehrlich's lateral chain theory of antitoxic immunity and healing, the antitoxins of the serum of immune organisms are simply molecular groups, loosened from the cells, and endowed with affinity for the haptophorous group of the corresponding toxin. Hence, antitoxic therapy simply resolves itself into a struggle of affinity between the haptophorous chain of the toxin and the cells on one hand and the antitoxin on the other. The toxin may have greater affinity for the cells; here, antitoxin is useless. Or the affinity for cell and antitoxin may be equal, and now the toxin is bound by the antitoxin in the blood serum. Finally, the toxin may have greater affinity for the antitoxin, and in this case the curative power of the latter will be greatest. In these hypothetic considerations lie the reasons for the search for animals whose antitoxin has the greatest affinity for a given toxin.

In the case of bactericidal immunity the conditions are entirely different. Normal extravascular serum has bactericidal powers, and the serum of animals immunized against certain bacteria, for example, the comma bacillus, the typhoid bacillus, etc., acquire specific bactericidal powers, which at first seem to be active only within the organism, but which it was soon found could destroy the corresponding bacteria outside the body as well. The bacteriolytic action of immune serum is currently known as Pfeiffer's phenomenon. The study of hemolytic serums has furthered greatly our knowledge of this form of action, thanks to the investigations of Bordet, Ehrlich and others. As has been pointed out frequently in these columns, the serum of an animal treated by the injection of the blood of an animal of another species acquires specific solvent powers with respect to the red corpuscles of the blood injected. It has been learned that this power depends on two substances, one of which is present normally and whose activity is destroyed by heating to 55 C. for 15 or 30 minutes, while the second is not affected by heat. These two substances have received various names. The first, which is destroyed by heat, is known as alexin and as complement, the second as immune body, *substance sensibilatrice*. The immune body, which represents the specificness of the process, links the complement to the corpuscle or bacterium, as the case may be, which is then dissolved by a fermentative process. Without this immune body, whatever it is, the complement can not act. These general facts are applicable to bacteriolysis and cytolysis alike. Baumgarten, Fischer and others have endeavored to show that the bactericidal action of serums does not depend upon any special substances like these, but upon osmotic disturbances and other purely physical factors. In the following is given a brief recapitulation of recent work by Wassermann[1] in an attempt to lay bare more of the secrets of serum actions. If hemolytic action depend on the two bodies referred to, the exclusion or neutralization of either should suspend hemolysis. In his experiments to prove the truth of this statement, Wassermann injected rabbits repeatedly under the skin with fresh guinea-pig's serum, which normally dissolves the red cells of the rabbit. In the serum of the rabbits so treated there forms an anti-complement that arrests the action of this substance in the guinea-pig's serum and thus prevents hemolysis in suitable mixtures. Injections of suspensions of typhoid bacilli mixed with 3 c.cm. anti-complement serum caused the prompt death of guinea-pigs, whereas similar injections alone, or mixed with normal rabbit's serum heated to 55 C. did not cause death, showing that the complements have a direct effect upon typhoid infections of guinea-pigs. Anti-complement reduces greatly their natural resistance. Similar results were noted in like experiments with the staphylococcus aureus. But not all kinds of natural immunity is dependent upon complement, because in similar experiments with anti-complement and microbes that are non-pathogenic for guinea-pigs and other animals Wassermann found that the anti-complement had no noticeable effect.

It is generally taught that complements (alexins) are derived from leucocytes, based almost wholly upon experiments with leucocytes outside the body. Wassermann reasoned that this problem would be solved easily if it were possible to produce anti-complements by the injection leucocytes thoroughly freed from every trace of serum. Guinea-pigs injected with leucocytes from rabbits developed distinct anti-complements with respect to the complements of the rabbit. Hence, leucocytes must be a source of complements, because they give rise to anti-complements in the living body, but they are apparently not the only source. There is room for much further investigation in regard to this point.

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[1] Zeitschr. f. Hyg. u. Infektionskr., 1901, xxxviii, 173-204.

In the case of artificial immunity, Wassermann very clearly shows that anti-complement arrests promptly the curative and preventive actions of immune typhoid serum—complement is necessary for its activity unless it be given in enormous doses. He further shows that complements have no influence on antitoxic serum. By similarly planned experiments it could be shown that animals actively immunized against typhoid lose their immunity under the influence of anti-complement. Furthermore, that artificial resistance against certain infections produced by the injection of numerous nonspecific substances, such as salt solution, urine, bouillon, blood serum, nuclein solution, etc., depends upon the active flow of complements towards the point of injection. Wassermann also shows that serum may contain different complements with distinct affinities, although certain kinds are common to most of the mammals so far examined.

The various forms of action here discussed are hardly explainable on the score of osmotic and nutritive disturbance as urged by Baumgarten and in others in the case of the bactericidal action of serum outside the body. The forms of activity seem to be more purely chemical or fermentative. Indeed, the general opinion is that complement or alexin is capable of digesting albumins in general.

THE PRESENCE OF TYPHOID BACILLI IN THE BLOOD.

Paradoxical though it may seem it is nevertheless a fact that the exact diagnosis of a disease becomes the more difficult as the knowledge concerning it becomes the more complete and the more refined. This is owing to the circumstance that the evidence upon which a diagnosis is based is more critically scrutinized, and must therefore be most convincing, both quantitatively and qualitatively. It is not so long ago that a complex of symptoms comprising malaise, nose-bleed, headache, diarrhea, continued fever and rose-spots was sufficient upon which to venture a diagnosis of typhoid fever, and mistake, while not common, was not rare, both by inclusion and by exclusion; but an increasing experience has taught that the symptoms named may be present in the absence of typhoid fever and absent in the presence of typhoid fever.

With the discovery of the typhoid bacillus, and the recognition of its pathogenic activity, it was believed that examination of the intestinal discharges would yield conclusive diagnostic information, but the isolation of the organism proved to be a matter of no small difficulty. Then, when the Gruber-Widal test was proposed, it was hoped that exactitude in diagnosis was reached, but this has proved to be measurably so only; and the reaction does not appear until the end of the first week, or even later, while in some cases of typhoid fever it escapes detection altogether, and in others it may be present when the existing disease is not typhoid fever. Typhoid bacilli have been found also in the urine and in the blood, in the former of which they may appear in from 20 to 30 per cent. of the cases, in large numbers from the second or third week, and for a long time even in the absence of symptoms referable to the genito-urinary tract.

According to some recent observations made with improved technique, as recorded by Dr. Rufus I. Cole,[1] the bacilli may be found in the blood in 75 per cent. of cases in the course of the second week of the disease. To be successful in their detection it is necessary to employ considerable amounts of blood, and to dilute them considerably. From 8 to 10 c.c. of blood are obtained directly from a vein of the arm under aseptic precautions, and this amount is divided among from one to six flasks containing each 150 c.c. of bouillon, so that dilutions of from 1 to 75 to 1 to 150 result. From this it would seem that it has become possible to make a diagnosis of typhoid fever with a high degree of precision, although what results will develop from the practical application of the theory is yet to be seen. In any event the frequency with which diagnosis is made by this method will depend upon the thoroughness with which the clinical examination is made.

A UNITED PROFESSION.

Were one a dreamer, one might expatiate on the possibility of having a united profession, but not otherwise—provided by this is meant a union of all physicians into one body. It would be impossible, outside of Utopia, to create a society whose principles and plan of organization in every detail would be acceptable to every individual.

It would not have been strange if some should have criticised the reorganization plan adopted at the last meeting of the American Medical Association, which it asks all its affiliated state societies to adopt and concur in. But thus far no criticism of the general plan has been noticed. All the medical journals which have expressed themselves have done so with approval, and while nearly all the state societies had held their annual meetings before the St. Paul session, and consequently before the adoption of the report of the reorganization committee, those that have considered it have done so favorably. While this does not prove that a few may not have some objections to some of the changes recommended, it shows that the many endorse the changes adopted.

While the American Medical Association has taken the initiative in adopting this new plan to unite the medical profession of our country into one compact body —a plan founded on practical and business principles— its satisfactory accomplishment can only be secured by the hearty co-operation and active assistance of the state and local societies, as well as by the aid of the individual members of the profession. With this assistance, within three years we will have an organization of the physicians of this country that will compel that respect which is their due, whose power through its far-reaching influence will force politicians to grant its just demands, and which will force the recognition of the services which physicians have rendered mankind.

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[1] Bull. Johns Hopkins Hosp., July, 1901, p. 203.

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This will require individual effort—a factor which counts in every walk of life and which is especially necessary in this work. One individual in a medical society can change it from a dormant to an active, living, working society with an influence that will be measured only by its size. One individual in a county, even though there are but a half dozen physicians in it, can organize a local society that will become a feeder for the state society and a unit in a great whole which will make an organized profession. Individual effort is necessary in building up any organization; outside the medical profession this effort is paid for. But with us the interest one has in his profession must be the stimulus to this individual effort, at least until the state society recognizes the necessity of adopting business principles and pays for the work.

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In view of these interesting findings it behooves physicians to carefully study cases of chronic diarrhea for balantidium coli, in the hope that as observations multiply the occurrence of a definite form due to this parasite may be definitely demonstrated or disproved. The chapter of chronic diarrhea and dysentery is still a very unsatisfactory one, because it undoubtedly includes a number of various distinct processes of different etiology and consequently to a large extent susceptible only of symptomatic treatment.

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[1] Deutsches Archiv f. klin. Medicin, 70 Bd., 3. und 4. H. p. 280.

THE PATHOGENESIS OF PARALYSIS AGITANS.

Although the symptomatology of paralysis agitans has been very thoroughly described, the pathogenesis of the disease is still involved in considerable obscurity. The affection occurs especially in advanced life, and such lesions as have been discovered after death correspond essentially with those of senility. It is true, cases are sometimes observed in comparatively young individuals, and in these the disorder is attributed to the premature development of the senile changes. The cardinal symptoms are rhythmic tremor, and muscular weakness and rigidity. The etiology of the disorder is not definitely known, although the symptoms have at times been observed to appear in a part of the body that has been subject to traumatism or to strain. They have also been seen to follow exposure to cold, or in the train of acute infectious diseases. Of late it has been suggested by some observers that paralysis agitans is dependent upon disease of the muscles themselves, and a case that goes far to support this view has been recently reported by P. F. Schwenn.[1] The patient was a man, who, at the age of 32 years, exhibited symptoms of writer's palsy, followed by a gradual development of rhythmic tremor in the right hand, then in the right lower extremity, and eventually also in the left upper and lower extremities and the head, together with other characteristic symptoms of paralysis agitans, and terminating fatally at the age of 43 years. Among manifestations of special note was difficulty in speech, which was toneless, almost unintelligible and faint, but became gradually louder and louder. Cough was also at first feeble and short, although gradually becoming stronger. Swallowing was difficult, and food had eventually to be administered through a tube. For a time, in the act of respiration, a series of inspiratory movements was followed by a long and not particularly deep expiration. Postmortem examination failed to disclose macroscopic or microscopic lesion in the central nervous system, but on histologic study of muscular tissue from various parts of the body a distinct increase in the longitudinal connective-tissue nuclei in the interstices of the individual muscular fibers was found, and the opinion is expressed that it is this change that is responsible for the symptoms of the disease. The muscles have not, as a rule, been made the object of study after death in cases of paralysis agitans, but such reports as have been recorded of examinations of this tissue are in accord with that in the present instance, and the lesions described would seem to be sufficient to account for the symptoms.

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[1] Deutsches Archiv f. klin. Medicin, lxx. Bd, 3. und 4. H. p. 19.

Prophylaxis of Tuberculosis in Factories.—By his personal efforts Tornu, of Buenos Ayres, has had the walls of the match factories placarded with instructions how to avoid tuberculosis, and has succeeded in having similar brief notices pasted on match boxes, cigar boxes and other objects of daily use.—*Revista Med. d. Uruguay.*

Medical News.

CALIFORNIA.

The California Hospital, Los Angeles, is to have a three-story brick addition to cost $25,000.

Smallpox has appeared in Napa, and has apparently been eradicated from San Jose, where the last placard has just been removed.

Major William L. Kneedler, surgeon, U. S. army, has returned from China and is sojourning at Coronado Beach, pending his departure for West Point, where he has been assigned to duty.

Prizes for Hospital Plans.—The building committee of the German Benevolent Society, San Francisco, has offered prizes of $2000, $1000, $750 and $500 for the four designs best meeting its requirements for a new hospital to cost $250,000.

Personal.—Dr. Herman E. Muller, Oakland, is spending his vacation at Bartlett Springs.——Dr. and Mrs. George B. N. Clow have returned from a European trip; Dr. Clow will resume practice in San Francisco.——Dr. J. T. Royles, Woodland, has returned from a trip to the Yukon country.

COLORADO.

Dr. John W. O'Connor, Denver, succeeded Dr. Frederick J. Bancroft as chief surgeon of the Rio Grande Western Railroad.

Morbidity and Mortality of Denver.—The report of the Bureau of Health for July shows 25 cases of diphtheria; 52 of scarlet fever and 10 each of measles and smallpox, a reduction of more than one-half as compared with June. The mortality for the month was 254, equivalent to an annual death-rate of 20.30 per 1000. Tuberculosis caused 62 deaths.

Rio Grande Western Hospital Association.—A hospital association for employees of the Rio Grande Western Railroad is to be organized on the same lines as that now in operation for the Denver & Rio Grande Railroad. It is intended to combine the hospital service of the two roads so that patients on the Rio Grande Western, who now have to be taken to Salt Lake City, Utah, may be received at the D. & R. G. hospital at Salida.

To Test Koch's Theory.—The question of whether or not animal tuberculosis can be communicated to human beings has led T. L. Monson, state dairy commissioner of Colorado, to agree to submit to a thorough test of the matter, provided a suitable annuity for his family is guaranteed in case the experiment should prove fatal to him. Mr. Monson has given a great deal of study to tuberculosis and the peculiarities of the disease in cattle and human beings and is a firm believer in the theory recently promulgated by Professor Koch, that animal tuberculosis is not transmissible to man.

CONNECTICUT.

The State Board of Medical Examiners, at its July session, examined 41 applicants, 35 of whom were successful and have been granted licenses to practice medicine in the state.

Mortality of Connecticut.—The Monthly Bulletin of the State Board of Health for July shows 1297 deaths during the month, with an annual death-rate for the larger towns of 18.1; for the small towns, 14.4, and for the entire state, 17.1 per 1000. Of the deaths reported, 315, or 24.3 per cent., were from infectious diseases.

New Haven Personals.—Dr. Robert S. Ives will leave shortly for Gloucester, Mass., where he will remain during the summer. He has been in ill-health for several months.——Dr. Francis Bacon has gone up to Peterborough for the summer.——Dr. G. Totten McMaster has gone to his cottage at York, Maine.——Dr. William W. Hawkes will leave town shortly for a hunting trip in Maine.

Revision of State Health Laws.—The State Board of Health recently held a meeting at the Surf House, Savin Rock, to give hearings to health officers from all over the state, concerning proposed revision of the health laws in towns. About 100 officials were present. The result of the meeting will be that health officers or selectmen of the towns will submit to the State Board of Health copies of their health regulations, which are to be considered by that board.

ILLINOIS.

Dr. George E. Wilkinson, Alton, has been appointed surgeon in the Illinois Naval Militia and assigned to the second ship's crew.

Dr. Charles E. Crawford, Rockford, was re-elected supreme medical examiner of the Sons of St. George, at its annual convention held in Racine, Wis., August 13.

The Morgan County Medical Society has been presented by Dr. H. W. Milligan with 150 volumes from his library. It is understood that the late Dr. N. S. Read, who presented the library with 150 volumes several years ago, has bequeathed the balance of his library to the Society.

New Dental Board.—The governor has appointed the following Board of Dental Examiners: G. H. Dameron, Arcola, to succeed H. W. Pitner, Fairfield; J. G. Reid, Chicago, to succeed himself; Clark R. Rowley, Chicago, to succeed J. H. Smyser, Chicago; T. W. Pritchett, Whitehall, to succeed W. C. Jocelyn, Cairo, and Donald K. Gallie, Chicago, to succeed Clarence Corbett, Edwardsville.

Chicago.

Dr. J. P. Smyth was elected High Physician of the Catholic Order of Foresters, at its annual meeting in Detroit, August 14.

Addition to Passavant Hospital.—Contracts have been let for a five-story brick and stone addition to the Passavant Memorial Hospital, to cost $15,000.

Personal.—Dr. and Mrs. George Paull Marquis sailed for Mackinac, August 15.——Dr. Frank Billings is spending the summer in Mackinac.——Dr. Albert H. Roler left for Mackinac, August 17.

Typhoid Fever is reported to be epidemic in the Nineteenth Ward. The Ward Improvement Association attributes the disease to infection from the filthiness of streets and alleys, but does not consider the possibility of water, milk or other foods as causative agents.

Stealing at the County Hospital.—Since Warden Healy assumed charge of affairs at Cook County Hospital, he has noticed mysterious disappearances of barrels of flour, medicines, clothing and the like. He instituted an investigation, as a result of which warrants have been sworn out against the suspected employees.

Impure water and not impure ice is the cause of the typhoid fever now prevalent in Chicago, says Acting Health Commissioner Dr. Frank W. Reilly. The heavy rainfalls of later June and early July washed into the lake enough pollution to impregnate the drinking water with disease germs. Intensely hot weather following caused an increase in the consumption of drinking water, with the result that there was a marked and sudden increase of all acute intestinal disease, particularly in the poor wards, where the precautions of filtering or boiling are not generally observed.

Increase in Contagious Diseases.—The Health Department Bulletin announces that after a period of unusual freedom from the contagious diseases, especially those of childhood, a marked increase has been noted during the past week in certain districts of the city, to-wit, scarlet fever in Rogers Park and scarlet fever and diphtheria in the Sixteenth and Twenty-eighth wards and in South Chicago north of Ninety-first street. An investigation, not yet completed, seems to show that the spread of scarlet fever in Rogers Park has been due to violation of the rule of the Health Department concerning the supply of milk to families in infected houses. On receipt of notification of a case of diphtheria, scarlet fever, etc., a warning card is affixed to the kitchen door, or other place where milk is left, reading: "Notice to Milkman. There is [name of disease, diphtheria, scarlet fever, etc.] here. The milkman must not enter the house. The family will set vessels outside, into which the milk and cream must be poured by the milkman, who must not handle the vessels. Milk or cream must not be delivered in bottles until this card is removed." There is reason to believe that this rule was not obeyed in the first cases of scarlet fever in Rogers Park and that infected bottles from the premises of these first cases were the medium of the subsequent spread of the disease. Housewives should assist the department in the enforcement of this rule and parents should be especially careful at the present time to prevent exposure of their children to families in which these diseases exist.

MARYLAND.

Merrill Hopkinson, who is at Checkley, Prout's Neck, Maine, has sent to the *Baltimore Sun* a check for $50, being one-half the proceeds of a concert which he gave there. He desires the amount to go to the Fresh-Air Fund of Baltimore.

Increased Water Supply for Baltimore.—The capacity of Lake Roland, from which Baltimore gets its chief water supply, has been increased by dredging 500,000 cubic yards. Several cases of typhoid fever are reported at Towson, which forms part of the watershed of the lake.

Dr. John S. Fulton, secretary of the State Board of Health, has been appointed a delegate to the National Health Association, to meet in Buffalo, September 16, and Dr. William Royal Stokes, a delegate to the Bacteriological Convention to meet at the same time and place, both as representatives of the Maryland State Board of Health.

Personal.—Dr. Alfred Whitehead is visiting Asbury Park, Buffalo and Canada.——Dr. Edwin Geer is at Ocean City, Md.—Dr. H. H. McArthur is at Brigantine Beach, N. J.—Dr. J. C. Hemmeter is at the Thousand Islands.——Drs. H. J. Hoye, H. T. Marshall, and B. R. Schenck sailed from Baltimore for Bremen on August 14.——Dr. J. A. Evans has gone to the Pan-American Exposition.——Drs. J. A. Carnes and E. G. Welch are at Atlantic City.

MICHIGAN.

Tekonsha is now having the proverbial doctors' disagreement about a disease resembling smallpox. After the usual lapse of time and failure to take preventive measures, the disease will probably be determined to be smallpox.

Mortality of Michigan.—During July 2470 deaths occurred in the state, a death-rate per 1000 of 12.2 per annum. Consumption caused 176 deaths; typhoid fever, 27; diarrheal diseases of infants, 252; cancer, 126; violence, 234; diphtheria, 16; scarlet fever, 7, and smallpox, 2.

MINNESOTA.

Dr. Fred P. Strathern, St. Peter, has gone to New York for a course of post-graduate study at Roosevelt Hospital.

Diphtheria is unusually widespread for this season of the year, says the secretary of the State Board of Health, and unless stringent methods of quarantine are adopted over the entire state, there will be, in all probability, a general epidemic as winter approaches—an epidemic which will be far more demoralizing and fatal than has been that of smallpox during the past two and a half years.

Advisory Vaccination.—Dr. Henry M. Bracken, Minneapolis, secretary of the State Board of Health, has issued a sweeping advisory circular, in which it is recommended that all employees of railroads, lumber camps or mines be vaccinated or present proof that they are immune to smallpox. The lumbermen will co-operate with the Board this year and require vaccination as a condition of employment. The order also recommends to school boards that vaccination be required of teachers and school children not already immune.

MISSOURI.

Dr. John Punton, Kansas City, is taking a two-months' vacation in Europe. He expects to return about the middle of September.

Baby Farms and Lying-In Hospitals.—Mayor Reed, of Kansas City, has signed the ordinance governing baby farms and lying-in hospitals and proposes to have the law vigorously enforced.

Drainage Canal the Scapegoat.—The health commissioner of St. Louis, in his annual report, gives the statistics of typhoid fever for the past five years. In 1895 there were 392 cases reported; in 1896, 281; in 1897, 464; in 1898, 408; in 1899, 1114, and in 1900, 1160. He attributes this increase to the sewage of Chicago. Dr. Starkloff apparently does not believe in the self-purification of running streams, nor does he seem to take into account the possibility of an increase in reports being responsible for the increase in aggregate cases.

Tuberculosis in St. Louis.—Dr. Max C. Starkloff, health commissioner of St. Louis, in his annual report, asserts that 90,000 of the population of 600,000 in St. Louis will die of tuberculosis. He recommends and urges on the municipal assembly the passage of a bill declaring pulmonary tuberculosis an infectious disease, dangerous to the public health, and that it be classed as contagious. The "white plague" caused 1353 deaths in St. Louis in the year ending April 1 last. There are 10,824 cases of tuberculosis in St. Louis to-day. The disease annually costs St. Louis more than $1,500,000. Tuberculosis germs are the only cause of the disease. It is not hereditary. Incipient tuberculosis tends to recovery, but advanced tuberculosis tends to a fatal issue. The disease is communicable and preventable.

NEW JERSEY.

Dr. Alexander T. Steele has been appointed assistant house-physician at St. Joseph's Hospital, Paterson.

North Hudson Hospital medical staff has been augmented by the appointment of Dr. John T. Luck, Union, and Dr. Benson, West New York.

Consumption Officially Declared Contagious.—The Jersey City Health Board has notified all physicians to report all cases of tuberculosis under head of contagious diseases. But the opinion is rife that more legislation is requisite to make the ordinance effective.

Diploma Mill Closed.—The "Central University of Medicine and Science," Jersey City, presided over by J. W. Norton-Smith, M.A., Ph.D., S.D., LL.D., which offered a degree in medicine for $10, or a diploma in medicine and philosophy for $15, has been closed by the governor.

Smallpox Not Yet Abated.—On August 13 three more cases were reported, one in East Newark and two in Harrison. In Newark proper three quarantined inmates of a house escaped during the night, and a day later were still at large. Two inmates of another dwelling made an attempt to escape at noon, but were returned to their quarters by the police. Two other captives on refusal to go back into their house were placed under arrest.

NEW YORK.

Dr. James C. Kennedy, Brooklyn, was seriously injured August 17, while trying to save the life of his carriage boy in a runaway. He was thrown against a telegraph pole, trampled on by the horse and run over by the carriage.

The first public playground and out-door gymnasium in Buffalo was opened to the public August 17, with appropriate ceremonies, in which the mayor, Dr. Diehl, and the Park Commissioners, represented by Drs. C. C. Wyckoff and M. D. Mann, took part.

Work on the new Batavia Emergency Hospital is progressing rapidly and the hospital will probably be ready for occupancy before winter. The members of the Genesee County Medical Association have agreed to furnish the money for fitting up the operating room.

Physicians' Protective League.—The physicians of Cortland and vicinity have organized to protect themselves against "dead-beats." After sixty days each physician is to prepare a list of his delinquent patients and hand it to the secretary. A copy of the names of the delinquents will be in the hands of every physician, and a physician who attends one of these delinquents, except in cases of emergency, shall be liable to a fine of $10. This agreement does not prevent physicians from giving medical aid to patients who are unable to pay, but is designed to protect members of the league against "dead beats."

Inspection of State Institutions.—As a result of Governor Odell's recent tour of inspection through the institutions for the care of the insane in the state, it is admitted by the governor himself that his annual message will contain a number of recommendations. The fact that the total cost of these institutions for the year 1900 was $5,544,891 as against $1,346,019 in the year 1893, will, it is said, be the ground on which the governor will ask the legislature to practice greater economy in this direction.

OHIO.

The deaths in Cincinnati for July exceeded the births reported by 342.

The People's Hospital, built by the colored people of Cincinnati, will be ready to receive patients early in November.

Dr. Claude B. Parker has resigned his position on the staff of the State Hospital for the Insane, Athens, and has returned to Gallipolis, where he will practice medicine with his father.

Dr. Thomas Grant Youmans, surgeon to the police and fire departments of Columbus, has been granted a vacation of a month. Dr. Ira B. Hamblin will attend to Dr. Youmans' duties in his absence.

Dr. Robert C. Tarbell, on leaving the State Hospital for the Insane, Columbus, to take up a special course of study in New York, had a reception given in his honor, August 2, at which he was presented with a diamond ring by his associates in the hospital.

PENNSYLVANIA.

For criminal practice, Joseph Heppenstall, alias Dr. Wills, of Philadelphia, was sentenced to four years in the Eastern Penitentiary on August 12.

Dr. J. Purd Kerr was elected a member of the board of directors of the Southside Hospital, Pittsburg, August 13, vice Dr. Michael A. Arnholt, deceased.

Dr. Robert J. Black, the mayor of McKeesport, who has been receiving considerable newspaper notoriety recently in connection with the strike, is a practicing physician, and a graduate of the Baltimore College of Physicians and Surgeons.

Troubles of Examining Boards.—The following extracts from letters of an applicant to practice medicine in Pennsylvania, demonstrates what the Board occasionally encounters. On July 2 he writes: "I have two licenses or certificuts from two different States. * * * I know of lots of doctors now in Pennsylvania who are practicing medicine, even in this county. Now, if you will be of help to me in obtaining a certificut I will give you some of their names, but if you can not be of any benefit to me I will not give their names away, and will go away to my licensed States." He adds as a postscript: "If you will help me to obtain a certificut, there is $50 in it for you, and if not I will leave at once." Two days later he wrote to the medical inspector that he did not care about "doctoring eny longer"; that he had practiced twenty-two years at different places; is now 43 years old, and has a good farm, where he can "enjoy life without practicing medicine under the Manopely laws of Pennsylvania." After declaring that he had studied under various physicians; that he was in "Buffalo University for three terms of lectures," and "then went to Chicago and graduated," and has his diploma, he adds: "I do not belong to the Manopely gang of allopaths, homeopaths nor electics, so will never go before the death dealing gang of robers for to be examined. There is no need of our writing eny more on this subject, so good day."

GENERAL.

Hawaiian Insane Asylum.—Dr. R. M. McMaster has been elected superintendent of the Insane Asylum at Honolulu. Dr. McMaster is a graduate of Rush Medical College, 1894; he afterwards practiced at Omaha.

Germans Criticise American Students.—The *Rhein. Westphal. Zeitung* states that American students who study at German universities are generally less educated than the students in the tertia (third year) of their gymnasiums (high schools). It says: "Here they study superficially and then pose as German physicians in the United States. The result is that German physicians no longer enjoy the reputation in the United States they once did. There is all the difference in the world between a German physician and a physician superficially educated in Germany, because he lacks preliminary education." German newspapers urge that unless the students from the United States acquire sufficient knowledge to fit them for a university course they should be excluded from German universities.

Yellow Fever Tests Prove Fatal.—Experiments are being conducted at Havana to test the immunizing and curative efficacy in yellow fever of the serum furnished by Dr. Caldas, a Brazilian physician. Dr. W. C. Gorgas provided eight mosquitoes from Santiago de Las Vegas which had bitten a well-marked case of yellow fever. Two of these anopheles were allowed to bite two people whom Dr. Caldas had previously inoculated with his serum to render them immune; two more bit non-immunes. On August 18, a Spaniard died who had been bitten by one of these germ-laden mosquitoes. He was healthy before the test, but developed yellow fever four days afterward. On August 19, a second man died who had been infected by a mosquito. Dr. Harvard, chief surgeon in Cuba, now refuses to permit more experiments of the kind to be tried.

CANADA.

Dr. Francis C. Mewburn, Toronto, celebrated the sixtieth anniversary of his wedding on July 25. He obtained his license to practice in 1838.

Dr. F. C. Macdonald, Scarboro, Ont., who was appointed to the staff of Civil Surgeons of the South African Field Force in December, has returned to Canada and will commence the practice of his profession.

Dr. P. A. Gillespie, formerly of Toronto Junction, but now of Winburg, South Africa, was recently presented with a medal and clasp, and was also granted a bounty for his loyal services to the British Crown during the war.

The Local Board of Health of Brantford, Ontario, has declared that city, as well as the county adjoining, free from smallpox. This includes the outbreak on the Indian Reserve and that among a number of berrypickers in the same county.

Dr. H. R. Woolbert, major in the Indian Medical Service, visited Toronto in July, and was the guest of Dr. O'Reilly, superintendent of the Toronto General Hospital. Dr. Woolbert has charge of a large district in India which contains twenty-two dispensaries.

Sewage Disposal at Stratford, Ontario.—Dr. Bryce, of the Provincial Board of Health, has returned to Toronto after inspecting the septic tank system of disposal of sewage at Stratford. This is the only system of its kind in Ontario and probably in Canada.

Medical Profession at the Canadian "Soo."—The profession at the Canadian "Soo," through Dr. McCaig, has very kindly offered to entertain the members of the profession from the East who pass through their town on their way to the Winnipeg meeting of the Canadian Medical.

An Outbreak of Hydrophobia.—The Department of Agriculture at Ottawa has received reports of an outbreak of rabies in the township of Pelham, Ontario, a short distance from Niagara Falls. Several fresh cases have recently appeared, and the Department has ordered Professor Baker, acting chief veterinary of the Dominion, to go and investigate.

Western Hospital, Montreal.—The governors of the Western Hospital, Montreal, are now discussing the plans for a new hospital at Westmount, the erection of which will cost $100,000. For several years now the institution has been running on a good financial basis, and the majority of those interested in the future welfare of this hospital think that the time is opportune for the erection of a modern building. The subject will be left to the medical board for a report.

British Columbia Medical Association.—This Association will hold its second annual meeting on September 5 and 6, the original date having been changed from August in order that the latter might coincide with the arrival on the coast of the excursion of medical men from the East after the meeting of the Canadian Medical Association at Winnipeg. The profession on the coast extend a cordial invitation to all eastern brethren to attend and join in their discussions and also to partake of their hospitality.

Montreal's Water.—The following is the way a local paper describes the present condition of Montreal's water: The report of the city analyst that the Montreal water is not dangerous will be very reassuring. It is gratifying to learn that the thickness which now helps to make the water solid is not the same kind of thickness in the spring, when the decayed vegetable matter from the streams helps to make the liquid soup-like and slimy. It is only minerals in solution, with sewage in finely distributed particles, which we now have with us and the Montreal water is not considered any worse than other American river waters. While this is reliable evidence that the article is not dangerous, it might still be just as well to keep a baseball mask, or some other appliance, hung across the exit of the faucet to keep the menagerie from escaping into the house and biting somebody.

Afflicted with Trachoma.—The question of admitting immigrants via Montreal to the United States has now become a very important one, when on Wednesday afternoon of last week eight Assyrians were brought before Inspector Francis for examination. Dr. Heiser, the United States immigration officer for the Province of Quebec, was present, and at once pronounced five of them to be suffering from trachoma. They were therefore refused the passport necessary for admission into the States. However, they were got on the train and taken as far as Rouse's Point, where they were arrested by United States officials and lodged in gaol awaiting instructions from the government at Washington. The five afflicted were by authority sent back to Montreal and there remain awaiting further developments. Contagious diseases are equally an embargo for admission to Canada as to the United States, and all immigrants undergo a thorough examination at Grosse Isle, but trachoma, favus and hernia, whilst debarred from the United States, are passed for Canada. The immigrants are still living in Montreal.

Canned Goods as a Cause of Disease.—A little over a year ago, the Department of Inland Revenue at Ottawa, sent out a circular letter to 4348 medical men in the Dominion, asking whether any cases of illness, apparently attributable to the use of tinned goods, had come under their notice within recent years; 1312 replied, and of these 1059 answered in the negative, while 254 answered in the affirmative. From Ontario came 112 affirmatives and 406 negatives, and from Quebec 66 affirmatives and 22 negatives were received. In view of these answers, the Department will at once adopt precautions in the interests of the public health. Judging from the replies received from physicians, the number of cases of disease apparently attributable to tinned goods would average about 138 per annum in Canada in an average period of about seven years. A total of fifteen cases terminated fatally. From a close analysis, the Department finds that there is nothing in the canned salmon trade to justify newspaper strictures which were brought to its notice.

FOREIGN.

Baccelli Minister of Agriculture.—Professor Guido Baccelli was a member of the Italian cabinet for a time as minister of public instruction. He has recently been appointed minister of agriculture.

German Orthopedic Society.—The orthopedists of Germany are organi[illegible] [illegible]al association to meet for the first time at [illegible] 23. Hoeftman, of Königsberg, Prussia, issues the appeal, which is signed by eighteen well-known names.

Deaths Abroad.—Dr. Bosse, of Berlin, died July 31, 69 years of age. He served at one time as "Kultusminister," and has always taken a prominent part in affairs connected with the public health.—The death of Dr. J. Schramm, a prominent surgeon of Dresden, is also announced.—The death of Professor Moncorvo is reported from Rio de Janeiro.

Government Investigation of Tuberculosis.—The German imperial board of health has summoned a conference of the leading authorities on tuberculosis in the country, to discuss the subject and institute research on the lines suggested by Koch. The specimens from the veterinary school on which his statements were based, are to be placed on public exhibition.

Death of the Empress Frederick.—Our German exchanges deplore the death of the Empress Frederic, to whose initiative and material and moral support the profession, the interests of the sick and the public health in general, owe so much. They comment on the coincidence that both she and her husband succumbed to malignant disease, and that the possibility was denied them of being saved by timely surgical intervention.

Female Students in European Universities.—According to the *Deutsche Med. Wochens.*, there are, excluding Munich, 95 female medical students in Germany, of whom 56 are foreign. They are distributed as follows: Berlin 25 (21 foreigners), Leipsic 24 (22 foreigners), Freiburg 18 (14 foreigners), Halle 12 (9 foreigners), Heidelberg 6, Bonn 5, Strasburg 2, Breslau 2, and Königsberg 1. In Switzerland, Berne University has 188 females (180 Russians), Zürich 85, and Lausanne 61.

LONDON LETTER.

Place of Meeting of the British Medical Association.

The selection of Cheltenham as a place of meeting for the Association, July 29-August 3, caused some surprise when it was first announced. Cheltenham, a name familiar in every text-work of therapeutics for the past 70 years, both for its mineral springs and having been the home of Edward Jenner, has in fact been neglected, and as a place of resort for invalids has been cold-shouldered, and the invitation issued to the medical men of the country to assemble there was rather coldly received. How different the reality has been every member of the Association is heartily agreed upon, for never had the members a more pleasant meeting-place than that afforded by Cheltenham. The synonym by which the city is known is the "Garden City" and thoroughly well bestowed is the name. So well is it favored with garden and foliage, that the city, with a population of some 50,000 persons, occupies an area out of all proportion to the actual numbers.

The Reorganization of the British Medical Association.

One of the most important events of the meeting was the consideration of the report of the Committee on Organization, which was appointed at the last meeting. While it was expected that much opposition would develop when the report was finally presented to the Association, the result was just the opposite, and practically the full report was accepted and adopted with a few minor changes. The report was introduced in a masterly, eloquent, diplomatic and witty speech by Mr. Edmund Owens, and this happy introduction of the report had as much to do with its adoption as anything, except the realization on the part of the members present that the Committee had spent much time on it, and, therefore, probably thought it could not be amended with any satisfaction. The Association under its past plan has been anything but satisfactory and a great desire has been evident on the part of all the members to make some change and as a rule a radical change was expected and hoped for. As someone afterwards said, the Association, as heretofore conducted, has been a pyramid standing on its point, base upward, and the point being the Council, which has practically managed affairs. The pyramid is now turned right-side up. Hereafter the affairs of the Association will be conducted by a delegate body, elected by the subordinate branches of the Association. There is a little anxiety expressed on the part of some as to the result of the radical change, although the large majority seem to think that only good can be the outcome. Hereafter the constituencies, in other words the small branches, will be responsible themselves for what the Association may do, for the Association, as a legislative and business body, will be their creation.

The Sections.

The scientific work of the meeting has been unusually successful and all the sections were well attended. The sections on surgery, obstetrics and gynecology were, as a rule, more largely attended than the others. Nothing of striking interest in the way of theories or discoveries or any remarkably brilliant contribution has to be recorded, although there was good all-around work in practically all the sections.

President's Address.

Dr. G. Bagot Ferguson, president of the Association, delivered his address on "Scientific Research; the Indispensable Basis of All Medical and Material Progress," before an audience of about 2000 members. For abstract of this see The Journal of August 3, page 327.

Dr. Patrick Manson Honored.

Dr. Patrick Manson was presented with the Stewart prize at one of the general meetings. It was established for the encouragement of the study of epidemic diseases. The prize was presented by the president, who congratulated the recipient on the importance of his past work and hoped for his future, both as to health and scientific research.

Annual Dinner.

The Association's annual dinner was held on August 1, at Cheltenham College, and was attended by about 400. It was presided over by the president. Among the speakers were Surgeon-General J. B. Hamilton, Inspector-General A. Turnbull, Sir William Broadbent, Dr. Sabouraad (Paris), Sir William MacCormac, Sir William Church, Professor Onondi (Budapest) and Professor George Dock (Ann Arbor). The latter replied in a humorous vein to the toast proposing the health of the guests, his name having been coupled therewith.

Excursions.

Although there was no equivalent to the Yellowstone National Park of the American Medical Association, the excursions into the famous Malvern Hills and neighboring valleys were interesting and well attended. Tewkesbury Abbey, with its neighboring Roman villa, and Gloucester and Cirencester were also visited by large parties. The scientific work of the meeting was often pleasantly broken into by agreeable garden parties and receptions.

Correspondence.

Collective Investigation of the Influence of the Silver Nitrate Injections on Phthisis.

Philadelphia, Aug. 15, 1901.

To the Editor:—In 1892 the undersigned began a collective investigation of the action of cold in the treatment of acute pneumonia and there is reason for believing that this procedure, which resulted in gathering four hundred cases of this disease thus treated, with a death-rate not quite five per cent., was an important factor in calling attention to the utility of that treatment, and in introducing it to the profession of this country. The research was based on the conviction that no remedy can be called truly successful until it has passed the exacting crucible of clinical experience.

It is now proposed to apply the same ordeal to the silver-injection treatment of phthisis, which, in a large hospital, dispensary and private practice, reaching over a period of three years, and during which many thousand injections were administered, has given me greater satisfaction than any other method that I have ever employed. In keeping with the above expressed feeling a cordial invitation is herewith extended to those members of the profession who have the inclination and opportunity to investigate this method of treating phthisis and to whom a reprint on the subject with full information and blanks to report cases, will be cheerfully sent on application.

Thomas J. Mays, M.D.

1829 Spruce Street.

The Smallpox Epidemic.

Clarksville, Tenn., Aug. 14, 1901.

To the Editor:—There is a point or two in your issue of August 3, to which I wish to call attention. Dr. Happel, in his paper, quotes from F. J. Runyon's paper entitled "Our Recent Epidemic of Smallpox and the Failure of Glycerinated Lymph," read before the Tennessee State Society, April, 1901, and published in the *Memphis Medical Monthly*, August, and attempts to support his own view that vaccination does not prevent the eruptive disease so widely prevalent, and generally recognized as "smallpox."

Runyon's statistics clearly show that proper vaccination did give general immunity to the disease in question, but that glycerinated lymph was not favorable and did not prevent smallpox. I saw many cases with Dr. Runyon, and his observations and experience with glycerinated lymph coincide with my own.

Dr. Le Roy (in his discussion) confounds Clarksville with Montgomery County. Dr. Runyon and I saw the first case of smallpox in Clarksville, and immediately recognized the disease as smallpox. So far as I know, our diagnosis of this and other cases which followed, was never questioned by any regular practitioner in Clarksville.

The case Dr. Le Roy referred to was outside the corporate limits where we had no jurisdiction, and which he diagnosed as "modified smallpox," and which was questioned by a homeopathic physician.

The Doctor is further mistaken as to the source of the Guthrie epidemic. This epidemic was the result of a case from Evansville, Ind., and not from Clarksville.

We take good care of our cases and if the state would exercise measures as rigid, the disease would be much more readily controlled. The three "—ates" with us put a speedy end to the disease, for we vaccinate, isolate and fumigate.

Respectfully, M. L. Hughes,
City Health Officer.

Miscellany.

Death Rates in South American Cities.—According to E. Coni, in *Rev. Med. d. Uruguay*, the annual mortality per 1000 has averaged 14.11 in the last seven years at Montevideo; 17 at Buenos Ayres; from 35.5 to 59 at Santiago de Chili, and from 22.9 to 45.4 at Rio. At Lima the average for five years is 42.8. Pulmonary tuberculosis is responsible for 25 per cent. of the mortality in Peru.

Another Schlatter.—Our esteemed contemporary, the *Iowa Medical Journal*, has the following in its August issue: "The poor old Divine-Healer Schlatter, who created such a furor in Denver a few years ago, was arrested as a vag in Washington last month. He had been on a drunk for three weeks when run in. It seems that the divine-healing business is not profitable with some. It is an indication of the public pulse when lay journals and newspapers take up the subject of "christian science" and Dowieism and handle them as roughly as they do. The narrow-minded and closely contracted followers of these fadisms are getting fewer every day and it will be but a short time until such absurd theories as are now promulgated by these sects will be a thing of history." The Schlatter who a few years ago drew to Denver such crowds of dupes, was an entirely different individual from this Washington crank. The former was probably an honest religious paranoiac, who was reported to have starved to death while fasting forty days.

Anal Dermoid Cyst Fistulae.—Serenin mentions in a communication to the *Med. Obosrenje* for January that he has had occasion to treat three cases of anal fistula which resulted from a suppurating dermoid cyst between the rectum and the sacrum. The wall of the cyst can be seen by opening wide the incised fistula, and unless it is excised, the fistula will not heal.

Idiosyncrasy to Morphin in the Aged.—Tauszk states in the *Ungarische Med. Presse* that he has frequently noticed that elderly men and women who have never taken opium or morphin, exhibit symptoms of intoxication after its administration, showing an idiosyncrasy. The repetition of very small doses, however, seems to induce tolerance and the drugs can then be given as indicated.

Prizes Offered in Mexico.—The National Academia de Medicina offers two prizes of 500 pesos each, for the best article on the subjects: "Means that should be adopted, 1, to prevent abortions and still-births, and 2, to diminish the number of deaths in the first five years of life." The communications must be in Spanish, sealed, and sent to the secretary of the Academia, J. G. Uruena, before October, 1902.

Deficiency in Preliminary Qualifications Among Graduates in Medicine.—Dr. Henry Beates, president of the Pennsylvania State Board of Medical Examiners, claims that of the 407 candidates before that board for examination last month 89, or less than 25 per cent., failed. The Board completed its sessions at Atlantic City, N. J., recently. "It is the commercialism of the medical schools that is the cause of so many rejections," said Dr. Beates. "The papers of this examination prove clearly that the medical colleges continue to admit students who are utterly illiterate. These students can not pass even the simplest rudimentary examination, and to them medicine is a study entirely beyond comprehension. Just so long as these colleges admit men of little or no preliminary education there must be a large percentage of rejections when they take the board examinations. I wish to say emphatically that the granting by a college of diplomas to such men is a fraud." —*N. Y. Med. Journal.*

Early Diagnosis of Tuberculosis by the Average Temperature.—A French physician, J. Tétau, publishes in the *Archives Méd. d'Angers*, the results of long and extensive research to the effect that with temperature as a basis all mankind can be grouped into three classes: Those with an average temperature of 37 to 37.5 C., showing normal organic processes going on in the organism; those with an average temperature below 37, showing diminished rates of organic processes, and revealing that the subject has an arthritic or herpetic tendency. Lastly, those with an average temperature above 37.5, showing an exaggeration of the organic processes. the soil on which tuberculosis develops. Tétau takes the temperature in the axilla, under the same conditions, for ten to fifteen days and then determines the average. If this average is below 37, the diagnosis of tuberculosis can be excluded, even although other signs point that way. If above 37.5, the subject is already phthisic, whether the tubercle germ has arrived or not, unless it is possible to promptly restore normal conditions.

Boy Shot Through the Brain—Recovery.—A case now under the care of Dr. John W. Chambers at the City Hospital, Baltimore, Md., has attracted considerable interest. Miss Ambler Hollyday, a daughter of Dr. J. Guy Hollyday, in the western suburbs, with two guests, was engaged in target practice in her father's lawn. They were using a 22-caliber Winchester repeating rifle, and while shooting at a bottle on the stump of a tree, shot a boy 8 years old, who was standing in his father's orchard some 230 yards away, beside his father and brother. The bullet entered the left side of the skull about midway between vertex and base and behind the motor area, went inward and forward and lodged under the skull somewhat higher up in the right side and in front of the motor area. He was immediately taken to the City Hospital. Dr. Chambers found on the right side an elevation, evidently due to the bullet having partly penetrated the skull on that side. He cut down, and lifting up some fragments of bone, found the bullet. The patient was at that time but semiconscious. There was some oozing of brain tissue through the opening which was found to be free from disease germs. The temperature was as high as 104, but all that has now passed away, the boy is perfectly conscious, with senses perfect and practically well. The result is somewhat unusual, and is to be ascribed to the small size of the ball and the escape of vessels and important nerves and nerve-centers.

Newspapers and the Medical Profession.—The majority of newspapers seem to think they are pleasing their readers by villifying physicians on every occasion, but on the other hand there are as many which recognize the worth of the profession and acknowledge its value as it deserves. The motive for most of this animus of newspapers is the fact that the ethics of the profession is against advertising, and selfishness finds its vent in slander. In its issue for August 17 *American Medicine* prints two comments which go well together. It says:

"The Chicago *Tribune* editorially villifies the profession because it does not advertise, and ends a silly tirade of abuse of medical ethics, and of defense of medical men who print their papers in newspapers before they read them to the medical societies in the following words:

> To the outsider this standard of conduct [condemnation of the medical advertiser] smacks strongly of insanity, and that it is not unreservedly subscribed to by doctors themselves is shown in the fact that the most 'ethical' of them all, while they would shrink in horror and dismay from paying regular advertising rates, are always accessible and even effusive when the interviewer comes around. It is ethical, in other words, to blow one's own horn free in the news columns, but heterodox and unprofessional to advertise and pay for it. That seems to be the sum and substance of medical ethics.

"The Cincinnati *Post* the same week says:

> When there is light, pure water, pure air and sanitary sewers in or connected with every school house in Cincinnati, there will be less sickness—and less business for the doctors. The men who have indorsed the *Post's* investigation are working earnestly and honestly against their own financial welfare. Why? Because there isn't one doctor in a thousand who isn't laboring to a large extent for the good of humanity. They have ambition to be successful as a spur and also a desire to be of use to the community. They do not work for money alone. The cry for universal cleanliness comes from the doctors. They are in favor of every idea, invention, thought or act that will prevent disease and suffering and add to the physical comfort of the people. There isn't a practical move for the physical betterment of mankind that does not find them ready to co-operate and lead when able and strong leaders are needed. Above and beyond all that lies the fact that there is little selfishness in the profession. The physicians of Cincinnati, as a body and individually, are working for the health of the people, and it is in many instances a labor of love.

"We hope every physician in or near Cincinnati is a subscriber to the *Post*, and we also hope that in Chicago ———."

To the above might be added another newspaper expression, this time from the Rochester *Democrat and Chronicle*. After giving an account of the death of the Emperor Frederick, and the unhappy relation thereto of Sir Morel Mackenzie, that newspaper says:

> "After Prince Frederick became emperor he lived about three months—the event of his death satisfying the physicians throughout Europe that the great throat specialist of London had made a diagnosis in the interest of political aspirations of a princely family rather than in accordance with the rigid rules of practice adhered to by the medical profession. It is stated in this connection that Dr. Mackenzie lost a good part of his practice, and died of a broken heart. The medical profession did not countenance his action, and left him to his own devices. If this relation is true, the experience of the distinguished physician is a striking example of the integrity of the great mass of medical practitioners and their devotion to the truths of science."

Virchow on the Bovine Tuberculosis Question.—Virchow calls attention to his statements published as long ago as 1863, in regard to the distinction between human and bovine tuberculosis. He observes that he has never been able to understand how any one could maintain their identity. At the same time, he has occasionally encountered a case of peritoneal tuberculosis in which the proliferations were so extraordinarily numerous and extensive, to an extent far beyond that otherwise observed in man, that he has always suspected the cases to be instances of bovine tuberculosis—"perlsucht" or pearl disease—transmitted to man in his food. He believes that Koch is too extreme in excluding this possibility. Virchow also emphasizes the necessity of restricting the term tuberculosis to actual tubercle formation. The constituent elements of the tubercle are, not the bacilli, but the cells proceeding from the living body, whether due to irritation from the tubercle bacillus or not. The mere presence of the tubercle bacillus does not necessarily make a tubercle. We must distinguish between the actual, pathologic tubercle and the merely bacteriologic condition. Hitherto any formation in which tubercle bacilli have been discovered has been dubbed forthwith a tubercle. Both bovine "pearl disease" and lupus in man have been regarded from this point of view, and even anatomic parts in which a tubercle bacillus is encountered now and then. Henceforth, we must be more discriminating and recognize that there are not only bacillary tubercles and bacillary hepatization, but also non-bacillary, and that every formation containing a tubercle bacillus is not necessarily a tubercle. Another point emphasized in his communication, which is published in the *Berlin. Klin. Woch.*, of August 5, is that bacteriologists have hitherto failed to pay attention to the quantity of the bacilli. They always act as if a single typhoid or cholera bacillus were inevitably the progenitor of countless millions, while Virchow believes that this does not invariably follow. He is convinced that the danger of infection is slight if the quantity of the bacilli introduced into the organism does not surpass a certain number.

Book Notices.

Crazes, Credulities and Christian Science. By Charles M. Oughton, M.D. Cloth. Pp. 121. Price, $1.00. Chicago: E. H. Colgrove. 1901.

Dr. Oughton has done what others have done before him—showed up the absurdities, the follies, and the absolute senselessness of "christian science." But what is the use? Any one who uses argument against the vaporous verbiage that emanates from the pen of the founder of this sect will have his pains for nothing. All the logic and reason and argument in the world will have no effect on those who once allow themselves to become controlled by such beliefs as influence the followers of Mrs. Eddy. Logic has no influence when sophistry is in the field. However, as an argument against the teachings of "christian science" to put into the hands of those who are thinking about the matter this book is to be commended.

Essentials of Surgery. Together with a Full Description of the Handkerchief and Roller Bandage. Arranged in the Form of Questions and Answers Prepared Especially for Students of Medicine. By Edward Martin, A.M., M.D., Clinical Professor of Genito-urinary Diseases in the University of Pennsylvania. Illustrated. Seventh Edition, Revised and Enlarged. With an Appendix containing Full Directions and Prescriptions for the Preparation of the Various Materials Used in Antiseptic Surgery. Also Several Hundred Receipts Covering the Medical Treatment of Surgical Affections. Pp. 342. Price, $1.00 net. Philadelphia: W. B. Saunders. 1900.

In this edition the author has revised the whole work and added a section on the treatment of appendicitis. The contents and arrangement form a good groundwork in surgery for the student.

A Manual of Otology. By Gorham Bacon, A.B., M.D., Professor of Otology in Cornell University Medical College, New York. With an Introductory Chapter by Clarence John Blake, M.D., Professor of Otology in Harvard University. Second edition. Revised and Enlarged. With 114 Illustrations and 3 Plates. Cloth. Pp. 422. Price, $2.25. New York and Philadelphia: Lea Brothers & Co. 1900.

The fact that a new edition of this work has followed closely upon the publication of the first, shows the demand existing for a handy manual on the diseases of the ear. The general practitioner is nowadays desirous of being able to recognize and treat the otitis media consequent upon scarlet fever, diphtheria and other throat affections. The series of illustrations has been enlarged and improved, and the operative treatment of mastoiditis has been more fully considered than in the previous edition.

Annual and Analytical Cyclopedia of Practical Medicine. By Charles E. de M. Sajous, M.D., and one hundred Associated Editors. Assisted by Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromolithographs, Engravings and Maps. Volume VI. Cloth. Pp. 1043. Price, $5.00 per volume. Philadelphia, New York, Chicago: F. A. Davis Co. 1901.

This is the last volume of an excellent work, and the largest of the series. It contains an index to the six volumes, which gives one an idea of the mass of information the complete series contains. The amount of work necessary to condense, systematize and co-ordinate all the vast amount of medical literature that these volumes represent has been enormous and can be appreciated only by those who have attempted such a task, though in a less pretentious manner. The work covers every branch of medical knowledge, and brings the literature of each up to recent times in such a manner that it can be referred to easily and with satisfaction. The work is not a text-book, or a substitute for text-books, but rather a supplement to them, as it were. This last volume contains many complete articles that are deserving of mention, among them being Surgery of the Stomach and Intestines, by W. W. Keen and M. B. Tinker; Syphilis, by G. Frank Lydston; Surgery of the Urinary System, by J. W. White and A. C. Wood; Diseases of the Uterus, by H. T. Byford; Diseases of the Adnexa, by E. E. Montgomery; Tumors of the Brain, by J. T. Eskridge; Typhoid Fever, by J. E. Graham, and other equally noticeable contributions. The index is full and complete, but it seems to us that it would have been much more satisfactory to have references made to volumes and pages rather than to subjects, as has been done. The illustrations while not numerous are excellent, and the complete series is a splendid monument to the indefatigable author and his corps of assistants.

Rhinology, Laryngology and Otology and their Significance in General Medicine. By E. P. Friedrich, M.D., Privatdocent at the University of Leipzig. Authorized Translation from the German. Edited by H. Holbrook Curtis, M.D., Consulting Surgeon to the New York Nose and Throat Hospital. Cloth. Pp. 348. Price, $2.50. Philadelphia and London: W. B. Saunders & Co. 1900.

The contributions of the author and translator to current literature in the range of this special work, would lead one to expect much from this, and an examination of the volume is not disappointing. The work of the translator is to be commended. This volume makes clear many subjects that in other text-books have only vexed the minds of many practitioners. The subjects are discussed in a clear and scientific manner, with plain, but elegant diction, and numerous cases are cited which serve to add interest and to elucidate points under consideration.

This volume treats of the relation to diseases of the ear, nose, and throat of diseases of the respiratory, circulatory, and digestive organs; of diseases of the blood and chronic constitutional diseases; of diseases of the kidneys, skin and sexual organs; of the eye, the nervous system, and of various intoxications. The chapter devoted to the nervous system and its relation to diseases of the ear, nose, and throat will be found comprehensive, instructive and valuable. Nothing of importance seems to have been overlooked by the author.

In view of the important position that has recently been accorded to diseases of the blood, the appearance of a chapter in this work on changes produced in the ear, nose, and throat by blood diseases, should be a subject of professional congratulation. It is a thoroughly practical volume, which will be especially appreciated by general practitioners who are most anxious about the diagnosis of these diseases and desire specific information along this line.

Married.

M. H. BELL, M.D., to Miss Ada Robinson, both of Memphis, Tenn., August 1.

IRA D. ISHAM, M.D., to Mrs. Buna Padgitt Fort, both of Chicago, August 17.

A. G. EVERETT, M. D., to Miss Annie Semmes, both of Memphis, Tenn., August 6.

DANIEL G. SIMPSON, M.D., to Miss Luella Conzett, both of Warren, Ohio, August 8.

JOHN W. FUQUA, M.D., Urbana, Ill., to Miss M. Ruth Mason, Macomb, August 14, at Ottawa.

CHARLES KAHN, M.D., to Miss Florence Dyer, both of Joliet, Ill., at Bay View, Mich., August 17.

HENRY B. ANDERSON, M.D., to Miss Florence Northway, both of Toronto, Ont., August 14, at the home of the bride.

FRANK EUDORAS WAXHAM, M.D., Denver, Colo., to Miss Alice Elizabeth Welles, Detroit, Mich., August 12, at the home of the bride.

Deaths and Obituaries.

James Alexander Williams, M.D., Rush Medical College, Chicago, 1863, Bellevue Hospital Medical College, 1866, died from apoplexy at Armonk, N. Y., August 15, aged 61. After the civil war, in which he served as assistant surgeon of the 135th Illinois Infantry and subsequently as surgeon of the 50th Illinois Infantry, he practiced for a time in Mattoon, Ill., but soon went to New York City and there remained until a few months before his death.

Thomas Sappington, M.D., University of Pennsylvania, Philadelphia, 1839, a grandson of one of the incorporators of the University of Maryland, died at his home in Baltimore, August 11, aged 85. He practiced in Frederick County for twelve years, and then moved to Baltimore, where he practiced until the time of his retirement, ten years ago.

Robert L. Crooks, M.D., Fort Wayne College of Medicine, 1880, while driving across the track five miles west of Van Wert, O., was struck by a train and killed, August 12. He was formerly mayor of Convoy, O., at which place he practiced, and was coroner of Van Wert County. He was a member of the American Medical Association.

John A. Duncan, M.D., McGill University, Montreal, 1884, was a passenger on the steamer *Islander*, and was drowned when that vessel sank off the Alaskan coast, August 15. He was treasurer of the Council of the College of Physicians and Surgeons of British Columbia, and was a practitioner at Victoria.

John Barnhardt, M.D., a pioneer physician of Canada, died at Toronto, where he has made his home for the past two years, August 9, aged 88. He first practiced in York and later at Streetsville. He afterward moved to Owen Sound, where he lived and practiced many years until his retirement.

Henry M. Downs, M.D., University of Michigan, Ann Arbor, 1880, died from cirrhosis of the liver, at his home in Kansas City, Kas., August 13, aged 41. He was for two years on the staff of the Osawatomie Insane Asylum. He was a member of the Kansas City (Mo.) Academy of Medicine.

Robert Barnwell Rhett, M.D., Medical College of the State of South Carolina, Charleston, 1879, died at St. Francis Xavier Hospital, Charleston, August 7, from typhoid fever, aged 47. He was Dean of the Charleston Medical School, and a member of the American Medical Association.

R. L. Boynton, M.D., Southern Medical College, Atlanta, 1889, until recently a practitioner at Geneva, Ga., died at his home in Columbus, Ga., August 9, from pulmonary tuberculosis, aged 38. His death was hastened by the death of his wife and an infant child on July 21 last.

Wiley Fussell, M.D., Atlanta Medical College, 1893, was waylaid and instantly killed about ten miles east of Fitzgerald, Ga., August 12, by a man with whom he had previously quarreled. He was a practitioner of Whitley, Ga.

Asa T. Fricks, M.D., Washington University School of Medicine, Baltimore, 1869, of Rising Fawn, Ga., was shot and killed, August 10, while horseback riding, as the result of a quarrel of long standing.

Edward G. Beeson, M.D., formerly assistant surgeon of the 39th Infantry, died at Marshalltown, Ia., August 15, from illness contracted while serving in the Philippines, aged 32.

Arthur L. Emerson, M.D., Medical School of Maine, Brunswick, 1878, died suddenly at his home in Chester, N. H., August 16, aged 52. He formerly practiced in Manchester.

George H. Long, M.D., Missouri Medical College, St. Louis, 1854, died from a stroke of paralysis, at his home in Barry, Ill., July 29, aged 71.

Edwin H. Cooper, M.D., Bellevue Hospital Medical College, New York, 1873, died at his home in Henderson, Ill., after a long illness, August 15.

Joseph H. Osterstock, M.D., University of Pennsylvania, Philadelphia, 1872, died at his home in Easton, Pa., after a short illness, June 30, aged 65.

Burns H. Dever, M.D., Kentucky School of Medicine, Louisville, 1882, died from appendicitis, at his home in Hume, Ill., August 14, aged 42.

Timothy S. Fish, M.D., Detroit Medical College, 1873, died at his home in Wolcott, N. Y., from heart failure, August 10, aged 55.

Mark M. Warren, M.D., Southern Medical College, Atlanta, 1889, died suddenly at his home in Macon, Miss., August 13.

George B. Caldwell, M.D., College of Physicians and Surgeons, Baltimore, 1886, died at his home in Newberry, S. C., July 5.

Edward P. Hay, M.D., University of Buffalo, 1899, died in the German Hospital, August 10. He practiced in Buffalo.

Fred J. Tompkins, M.D., Albany Medical College, 1885, died at his home in Lansingburg, N. Y., August 12.

Augustus V. Park, M.D., Rush Medical College, 1883, died at his home in Chicago, August 14, aged 50.

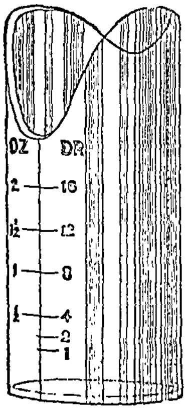
New Instrument.

NASAL DOUCHE CUP.

W. J. EVANS.

NEW YORK CITY.

This cup has been designed to meet the demand for an instrument for washing out the nasal cavity, which could be used without fear of injury to the breathing passages, or forcing of fluid into the Eustachian tubes. It admits of the natural method of cleansing the nose. The fluid is placed in the cup, the higher curve of the rim being adjusted beneath the nostrils. The cup is tilted until the liquid enters the nostrils, then, closing the mouth, a slight drawing in of the breath causes the solution to enter the nose and naso-pharynx, thus bringing it in contact with all parts of the nasal mucous membrane. The solution may be allowed to pass to the back of the throat, and be expelled through the mouth. If it is desired to douche one nostril at a time, this may be easily accomplished by alternately pressing the elevated rim of the cup against the wing of the nostril, thus completely closing it.



One-quarter actual size.

Societies.

COMING MEETINGS.

Rocky Mountain Inter-State Medical Association, Denver, Colo., Sept. 3-4, 1901.
American Association of Obstetricians and Gynecologists, Cleveland, Ohio, Sept. 17-19, 1901.
American Academy of Railway Surgeons, Chicago, Sept. 12-13, 1901.
Mississippi Valley Medical Association, Put-in-Bay, Sept. 12-14, 1901.
Conference of State and Provincial Boards of Health of North America, Niagara Falls, Sept. 13-14, 1901.
American Public Health Association, Buffalo, Sept. 16-20, 1901.
Medical Society of the Missouri Valley, St. Joseph, Mo., Sept. 19, 1901.
Medical Society of the State of Pennsylvania, Philadelphia, Sept. 24-26, 1901.
American Electro-Therapeutic Association, Buffalo, Sept. 24-26, 1901.
Utah State Medical Society, Provo City, Oct. 1-2, 1901.
Idaho State Medical Society, Pocatello, Oct. 3-4, 1901.
Tri-State Medical Society of Alabama, Georgia and Tennessee, Nashville, Tenn., Oct. 8-10, 1901.
Wyoming State Medical Society, Evanston, Oct. 8-9, 1901.
Vermont State Medical Society, Bellows Falls, Oct. 10-11, 1901.
New York State Medical Association, New York City, Oct. 21-24, 1901.

Muldraugh Hill (Ky.) Medical Society.—At the meeting of this Society held at Elizabethtown, August 8, the following officers were elected: Dr. Aloysius G. Blincoe, Bardstown, president, and Dr. Argus D. Willmoth, Rineyville, secretary.

Council Bluffs (Ia.) Medical Society.—The thirty-fifth annual meeting of this Society was held August 8, and the following officers were elected: Dr. Donald Macrae, president; Dr. J. H. Cole, vice-president, Dr. Frank Dean, secretary, and Dr. Henry B. Jennings, treasurer.

Texas State Association of Health Officers.—At the meeting of this Association held in Dallas, August 6, officers were elected for the coming year, as follows: President, Dr. Isaac J. Jones, Austin; vice-president, Dr. William H. Blythe, Mt. Pleasant, and secretary and treasurer, Dr. James E. Wilson, Dallas. The next meeting will be held in Austin.

Erie County (N. Y.) Hospital Alumni Association.—The former internes of the hospital met at Buffalo recently and organized this Association, electing the following officers: Dr. George Ward, Staten Island, president; Dr. Milton P. Messinger, Swormville, vice-president; Dr. Frederick W. Filsinger, Buffalo, secretary; Dr. Frederick H. Mills, Buffalo, treasurer, and Dr. Louis H. Beyer, Buffalo, librarian.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Treatment of Inebriety Outside of Hospitals.

The following outline of treatment is the plan of Charles L. Dana, of New York, as published by the *Med. Rec.*: The patient, according to Dr. Dana, should stop drinking and usually smoking, and take for three weeks a mixture of nux vomica, capsicum and cinchona as follows:

℞.	Tinct. nucis vom.	℥i	32
	Tinct. capsici	ʒi	4
	Tinct. cinchon. rubræ	℥v	160

M. Sig.: One teaspoonful three times a day, increased by twenty drops daily to half an ounce *three times a day.*

He states that the maximum dose should be continued for a week, and then reduced as it was increased. At the same time he is in the habit of giving two teaspoonfuls of sodium bromid daily when the patient is nervous, irritable or troubled with insomnia. The patient should be fed well and very often, and avoid getting tired or hungry. When the desire for drink comes on the patient should be told to take two teaspoonfuls of the above mixture of nux vomica and cinchona, to which is added 1/120 grain of atropin sulphate, and he should take hot milk or beef tea to relieve the fatigue. After two weeks' rest from medicine, the course should be repeated under the supervision of the physician. After a second course, a month's interval may be allowed and then the treatment repeated, and so on.

For Chordee.

The following is recommended for the relief of chordee, by Dalton, in *Edin. Med. Jour.*:

℞.	Liq. morph. hydrochlor.	m. xv	1
	Cocainæ hydrochlor.	gr. ss	03
	Aq. destil q. s. ad	ʒii	8

M. Sig.: Inject into the urethra and hold five minutes, just before retiring.

He states that the bowels must be kept freely open by giving a cathartic pill every third day during the acute stage and avoid saline purgatives. The urine should be kept alkaline by potassium bicarbonate and acetate combined with the tincture of hyoscyamus.

Treatment of the Cough in Tuberculosis.

Dr. L. Weber, in *New York Med. Jour.*, recommends the following in the treatment of cough and general irritability:

℞.	Sodii bicarb.	ʒi	4
	Morph. sulphates	gr. i	06
	Aq. Laurocerosi	ʒi	4
	Aq. chloroformi	℥vi	192

M. Sig.: One to two teaspoonfuls in two tablespoonfuls of water every three hours.

To combat the disease, instead of prescribing creosote in capsules mixed with oil, he recommends the following:

℞.	Creosoti		
	Alcoholis āā	℥i	32

M. Sig.: Ten drops in half glass of milk after meals.

Treatment of Specific Ulceration of Pharynx.

C. A. Parker, in the *Month. Encyl. of Med.*, states that in all forms of tertiary syphilis of the pharynx the combination of potassium iodid internally and mercurial inunction is especially useful and should be employed early. In tertiary ulceration, the ulcer should be thoroughly cleansed and insufflated with iodoform or in some cases with heated calomel. If pain is present it will be relieved by applying orthoform locally; one insufflation of this will usually relieve the pain for twenty-four hours. The gargle for the patient to use at home should be composed of the following:

℞.	Potassii chloratis	gr. x	66
	Lotionis nigræ	℥ss	16
	Aquæ q. s. ad	℥i	32

M. Sig.: Use as gargle twice a day to relieve pain and cleanse the throat.

Medical Treatment of Appendicitis.

Rosewater, in *Med. Record*, states the bowels should be evacuated by administering mild chlorid of mercury followed by a saline laxative. Give a high enema of the normal saline solution if an abscess can not be made out. The patient should be constantly kept on his back. Milk should constitute the diet, which serves the purpose better when predigested. Opiates should be prohibited, but ice applications used instead. For nausea small doses of calomel and cracked ice are good, and for the nervous symptoms a combination of salol, phenacetin and caffein citrate is of greatest value. Use stimulants when necessary. Give potassium iodid in three-grain doses every 4 hours. This will hasten absorption of the exudates.

Treatment of Bubo.

Frederic Griffith, in *New York Med. Jour.*, states that a bubo is, until pus-formation takes place, a local affection, and the aim should be, in the early treatment, toward the prevention of this change by the employment of abortive measures.

The application at bedtimes of an ice bag, a towel wrung out in boiling water, or a flaxseed poultice, will, if carefully carried out with energetic treatment of the origin of the infection, allay the trouble in at least one-third of the cases. He also recommends the following to be applied daily:

℞.	Ung. hydrargyri			
	Ung. belladonnæ			
	Ung. ichthyolis āā	ʒii	8	

M. Sig.: Apply locally once a day.

In cases where puncture is made early for the relief of pain, and the infected gland will not discharge, 5 or 10 drops of pure carbolic acid are to be injected through a hypodermic syringe into the center of the mass of hardened cellular tissue. Should the action be too great, alcohol 95 per cent. will neutralize the effect if injected soon after the introduction of the acid.

The Best Way of Prescribing Calomel as a Purgative.

In some very interesting essays upon this subject in the *New York Med. Jour.*, a study as to the best time of administration as well as the best method of administering is presented by the different writers. According to Dr. E. M. Merrins, in patients particularly difficult to purge, as in plethoric and sthenic individuals requiring a thorough cleansing of the liver, calomel should be prescribed in two medium doses combined with other drugs to increase glandular secretion, as follows:

℞.	Hydrarg. chloridi mitis.			
	Sodii bicarb. āā	gr. vi		36
	Pulv. jalapæ	gr. v		30
	Resinæ podophylli	gr. 1/4		015

M. Ft. chart. No. ii. Sig.: One powder to be taken at eight and the other at ten o'clock, to be followed by a dose of magnesium sulphate in the morning.

Dr. J. B. Corsiglia states that the best way of prescribing calomel for its purgative action is in small doses, one-sixth of a grain for an adult, repeated every hour till twelve doses have been given, always associated with small doses of sodium bicarbonate and sugar of milk. A seidlitz powder should follow. His reasons are as follows: The sodium bicarbonate prevents the griping, the sugar of milk helps its eliminating power. A slow but steady action of the calomel upon the intestinal glands is desired so as to allow a gradual escape of the bile. On the other hand, with a single dose the glands are overstimulated, giving them more work to perform than nature has designed and as the result they are left sluggish and weak.

Dr. B. E. Henrahan states that by the action of nitric or nitro-hydrochloric acid, calomel is slowly converted into corrosive sublimate; the chlorids also produce corrosive sublimate; it should therefore not be prescribed at the same time with ammonium chlorid or nitro-hydrochloric acid. The power of calomel to salivate is increased by long trituration with sugar of milk, perhaps on account of the extremely fine division to which it is brought. When used as a purge calomel should be used in doses of one-sixth to one-half grain every fifteen minutes until one or two grains are given. The reason that small doses are as efficient is that only the calomel which is changed into the gray oxid is active and as there is only a small amount of alkaline juice in the intestine, if calomel is taken in large doses, the greater portion escapes unchanged. In diarrhea of children or infants who have flatulence, a fetid breath, and ill-smelling green stools, he recommends the following:

℞.	Hydrarg. chloridi mitis			
	Pulv. ipecac. āā	gr. i		06
	Sacch. lactis	gr. xx	1	33

M. Ft. chart. No. x. Sig.: One powder to be taken three times a day.

Treatment of Neurasthenia.

M. Allen Starr, in *New York Med. Rec.*, states that in neurasthenia, which often precedes melancholia, and which has for its symptoms headache, dull pressure in the head and back of the neck, sensations of fulness in the head with disorders of circulation, digestion and elimination, the treatment should be as follows: The diet should consist of meat, fish, oysters, rice, macaroni and hominy; but he states that milk and eggs, potatoes, turnips, beets and tomatoes do not as a rule agree. All stimulants should be avoided. For the digestive tract he recommends the following:

℞.	Sodii salicylatis	gr. x		66
	Sodii phosphatis	ʒi	4	
	Sodii chloridi	ʒss	2	

M. Sig.: This powder to be taken first thing in the morning.

To counteract the toxic agent in the intestinal tract he recommends the following:

℞.	Sodii sulphocarbol.	gr. v		30
	Potassii permangan.	gr. i		06

M. Fiat capsula (shellac) No. i. Sig.: One such capsule three times a day on an empty stomach. [The foregoing is put up in shellac as it will then be insoluble in the stomach, but will dissolve in the alkaline media of the intestine.]

As a substitute for the above intestinal antiseptic he recommends the following:

℞.	Salol	gr. v		33
	Olei ricini	m. x		66

M. Fiat capsula No. i. Sig.: One such three times a day. before each meal; or:

℞.	Sodii benzoatis	gr. ii		12
	Zinci sulphocarbol	gr. i		06
	Beta-naphthol.	gr. i		06

M. Fiat capsula No. i. Sig.: One such three times a day.

Treatment of Tapeworm.

Margossian, as noted in *Phil. Med. Jour.*, states that he was unsuccessful in removing the head of a tapeworm from a patient, who had been suffering for ten years, by administering ten-drop doses of the oleoresin of male fern. So he determined to find out the merits of the drug by administering it in one-half ounce dose at one time. Within two hours' time the expulsion of the tapeworm, including the head, took place. Since then he has treated five other cases after the same plan with as good success. No complications or symptoms of poisoning were present.

Medicolegal.

Condition of Brain may be Shown by Photograph.—The testimony of the experts, in the homicide case of Monson vs. State of Texas, showed that there was a blow on the left side of the head of the deceased which fractured the skull for an inch or so, and that on the opposite side of the head and on the brain was clotted blood. In connection with the expert testimony, the state was permitted to introduce before the jury a photograph of the head of the deceased, showing the condition of the brain after the removal of the skull at the autopsy, which photograph, the expert witnesses stated, correctly represented the conditions which they purported to show. This was objected to. But the Court of Criminal Appeals of Texas does not consider that it was error. It says that it does not believe that it was calculated to unjustly prejudice the rights of the accused before the jury, while, under the authorities, it believes this character of evidence is admissible.

Fifteen Thousand Dollars for Loss of Legs.—While it thinks the amount large—much larger than it would have awarded if the case had been submitted to it to assess the damages—nevertheless, the Court of Appeals of Kentucky affirms, in Illinois Central Railroad Co. vs. Stewart, a judgment for $15,000, rendered on the third trial, for the loss of both legs by a switchman, his legs having been so left that artificial limbs could not be used, besides which it was evident that he must have suffered long and a great deal, and had his vitality greatly weakened by the injuries upon his body, his death finally occurring. What is a fair compensation to a man for such injuries it declares is hard to estimate; for not only is his capacity to labor destroyed, as in case of death, but the capacity to suffer remains; and not the least of this is mental suffering in such a situation. And, the law having provided another form for the assessment of damages in cases of this character, the Court of Appeals says that, where punitive damages may be allowed by the jury, it is only in extreme cases, where the damages are so excessive as to strike the mind at first blush as unreasonable, that it can interfere. It also holds that evidence as to a bruise on the switchman's back which sloughed out, and other proof as to his treatment, were competent to show the character and extent of his suffering.

The Requirements of a Malpractice Case.—In the case of Wheeler vs. Bowles, where there was a charge of malpractice in the treatment of a dislocated shoulder, and it was contended, in defense, that the treatment rendered was proper and that all the trouble was owing to a negligent second dislocation after the case had been dismissed, the Supreme Court of Missouri, Division No. 2, has affirmed a judgment for the plaintiff for $4000 damages. It holds that the instructions given the jury were remarkably fair and contained every element necessary, requiring the jury to find that the defendant was employed by the plaintiff to set and heal her dislocated shoulder, and that he negligently treated and managed it, and, through his negligence, the dislocation was not reduced, and the plaintiff's shoulder had become permanently injured, lamed, and disfigured, and then leaving the jury to find the amount that the plaintiff should recover for such injury. It thinks this sufficient, especially as one of the instructions deprived the plaintiff of the right to recover her loss of time and services, because she was a married woman, and the services of a wife belong wholly to her husband. If it was desired to have the jury restricted to certain elements of damages, an appropriate instruction on that subject, it holds, should have been offered. By the fourth instruction given the jury were told that in determining this case they were to consider that the defendant did not warrant a cure, but his contract, as implied in law, was that he possessed that reasonable degree of learning, skill, and experience which was ordinarily possessed by others of his profession; that he would use reasonable and ordinary care and diligence in the treatment of the case; and that he would use his best judgment, in all matters of doubt, as to the proper course of treatment. The defendant was not responsible in damages for want of success, unless it was shown from the evidence to result from the want of ordinary skill and learning, and such as was ordinarily possessed by others of his profession, acting under like circumstances, or from want of ordinary care and attention.

Proof of Insanity—Records—Rule as to Continuing.—Insanity, the Supreme Court of Wisconsin says, in Hempton vs. State, is provable by circumstantial evidence mainly, all the acts and mental characteristics of the person whose sanity is in question, covering a considerable period of time prior to the particular time in question and thereafter as well, being material. On the trial of the issue of insanity in a prosecution for a criminal homicide, it is proper to show on the part of the accused that he was adjudged insane and committed to the State Hospital at a time previous to the homicide, and the facts on which the adjudication took place, and to that end introduce in evidence the reports of the examining physicians. The daily record of a patient at the Hospital for the Insane, kept in accordance with a statute requiring such a record to be kept, is admissible in evidence to show the mental characteristics of the patient while at the hospital in any judicial proceedings where the facts in that regard are material, under the general rule that a public record required to be kept for public purposes is admissible in a judicial proceeding where such matters are material. The doctrine, once insane always insane till the contrary is established by evidence, is not and never was an absolute rule. It never applied to occasional or intermittent insanity. It is only where the insanity is once proven to exist and to have been of the character likely to become permanent it properly applies. Moreover, the rule that a person adjudged insane continues so till the contrary is shown, applied to insanity of a nature liable to be permanent, is a rule of evidence subject to reasonable change by legislative will. And, under the statutes of Wisconsin, after a person has been on parole continuously from the hospital for the period of two years or more, the adjudication upon which he was committed to the hospital is no longer prima facie proof of insanity. The verdict of the jury, on the special issue as to the sanity of a person charged with a criminal offense at the time of the alleged commission thereof, that he was sane, precludes further inquiry as to mental impairment at such time, entirely excusing the accused from legal responsibility; but on the plea of not guilty, evidence is permissible tending to show a condition of mind—whether produced by the use of intoxicating liquor or any other cause—rendering the accused incapable of forming a specific intent to commit the crime of murder at the time of the alleged offense, and bearing on the character of the offense if he is guilty at all. On the question of whether, because of an abnormal mental condition, the accused, in a prosecution for criminal homicide, was capable of forming a design to kill, a material issuable question arises involving mental condition, which may be evidenced by proof of the use of intoxicating liquors or by any other adequate disturbing cause.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), August 10.

1 *The Condition of the Kidneys with Reference to the Employment of Diuretics. Arthur R. Elliott.
2 *The Therapeutics of Subacute and Chronic Heart Diseases. Thomas Satterthwaite.
3 Gouty Affections of the Kidneys. Richard K. Macalester.
4 *Uremia and Its Differential Diagnosis.* S. D. Hopkins.
5 The Cardio-vascular Changes of Renal Disease. J. N. Hall.
6 *Renal Functions and Life Insurance. Clinton G. Hickey.

Medical Record (N. Y.), August 10.

7 *The Propagation of Yellow Fever; Observations Based on Recent Researches. Walter Reed.
8 *Empyema of the Antrum of Highmore in Young Infants. Emil Mayer.
9 *The Selection and Sterilization of Muriate of Cocain for Spinal Anesthesia. William C. Riley.
10 A Case of Primary Epithelioma of the Uvula. Seymour Oppenheimer.
11 Multilocular Cyst of the Inferior Maxilla; Operation; Recovery. J. A. Otte.

Philadelphia Medical Journal, August 10.

12 Some Contrivances for Applying Carbonic Acid Douches for Therapeutic Purposes. A Rose.
13 *The Bucco-antral Route in Neurectomy for the Relief of Tic Douloureux. Gordon King.
14 A Case of Tic Douloureux, with Successful Removal of the Gasserian Ganglion; with Photograph of the Patient. Henry T. Williams.
15 *Diagnosis and Prognosis of Heart Disease. M. H. Fussell.
16 *General Remarks on Painful Affections of the Feet. Frank E. Peckham.
17 *Report of a Case of Raynaud's Disease. Benjamin F. Lyle and John E. Greiwe.

American Medicine (Philadelphia). August 10.

18 Expectant Treatment. A. Jacobi.
19 *Fusel-oil *Poisoning with Special Reference to the* Copper Reducing Substances Eliminated in the Urine. Thomas B. Futcher.
20 *Acute Dilatation of the Stomach. Julius Friedenwald.
21 *Two Cases of Vicious Circle, After Gastroenterostomy. (Concluded.) Theodore A. McGraw.

Boston Medical and Surgical Journal, August 8.

22 *Scientific Research: The Indispensable Basis of All Medical and Material Progress. (Concluded.) George B. Ferguson.
23 *A Critical Note upon Clinical Methods of Measuring *Blood* Pressure. William H. Howell and C. E. Brush, Jr.
24 *The Relation of Bodily Mutilations to Longevity. John Homans.
25 *The General Character of the Problems of Public Health Bacteriology. Hibbert W. Hill.
26 *Intracranial Pressure After Head Injuries. Walter B. Cannon.

New York Medical Journal, August 10.

27 *Cleft Palate and Its Association with Hare-lip. John H. Branth.
28 *Acute Lobar Pneumonia; a Pathological and Clinical Study of 120 Consecutive Cases Subjected to Postmortem Examination. John Lindsay Steven.

29 *Suggestions for a Study of Fats in Their Relation to Physiological Chemistry, Therapeutics and Toxicology. John Reid.
30 *The Home Treatment of Tuberculosis. Irwin H. Hance.
31 *A New Method of Testing for Lactic Acid. Mark I. Knapp.

St. Louis Medical Review, August 10.

32 Obstruction of Bowels. H. C. Dalton.
33 Remarks About Hemolysis. C. Fisch.

Cincinnati Lancet-Clinic, August 10.

34 *The Early Operation for Appendicitis from a Pathological Standpoint. J. G. Carpenter.
35 Some of the Evils of Married Life. Brose S. Horne.

Northwestern Lancet (Minneapolis), August 1.

37 A Brief Review of the Treatment of Diphtheria. J. C. Litzenberg.
38 Cure of a Case of Popliteal Aneurism by Pressure. Geo. Douglas Head.

Illinois Medical Journal (Springfield), August.

39 *The So-called Traumatic Neurosis. Harold N. Moyer.
40 *The Home Treatment of Tuberculosis. Robert H. Babcock.
41 The Inoculation Theory of Malarial Fever Through the Agency of Mosquitoes. S. E. Munson.
42 Diagnosis of Malaria in Children. Everett J. Brown.
43 That Ounce of Prevention. Charles B. Johnson.

Cleveland Medical Gazette, August.

44 A Case of Dermatitis Exfoliativa Neonatorum (Ritter). A. Ravogli.
45 Laboratory Feeding, with Especial Reference to the Modified Milk Fund. J. J. Thomas.
46 Substitute Feeding of Children. E. H. Lucke.
47 The Feeding of Children After the First Year. Miriam G. Kerruish.
48 Dosimetric Medication in Pediatric Practice. M. Borts.

Medical Dial (Minneapolis), August 1.

49 Events in the History of American Surgery—A Brief Review. Franklin Staples.

Buffalo Medical Journal, August.

50 *The Fan System of Heating, Ventilating and Air-Supply of Certain Buffalo Schools. Henry Reed Hopkins.
51 *Prostatic Hypertrophy. Marshall Clinton.
52 *Some Thoughts, in Lighter Vein, on the Practice of Medicine from a Business Standpoint. Devillo W. Harrington.
53 Charity by Proxy or Semi-Charity, and Its Disastrous Effect upon the Physician. Marcell Hartwig.
54 Gross Anatomy—A Brief Résumé of the Anatomy of the Kidneys. Byron H. Daggett.

Medicine (Detroit, Mich.), August.

55 Recent Progress in Bacteriology. D. H. Bergey.
56 Notes from the Children's Ward. Abraham Jacobi.
57 Fractures of the Clavicle. Carter S. Cole.
58 Removing the Eyeball: A Discussion of Some Methods. Frank Allport.

Louisville Monthly Journal of Medicine and Surgery, August.

59 *Miscarriage and Its Treatment. Walker B. Gossett.
60 *The Conduct of the Second Stage of Labor, in Private Practice. Edward Speidel.
61 *The Puerperium. John G. Cecil.
62 *Instrumental and Operative Obstetrics. Arthur T. McCormack.
63 *Some Interesting Experiences in Obstetrics. W. E. Sleet.

Brooklyn Medical Journal, August.

64 The Brooklyn Water Supply. Arthur S. Tuttle.
65 Tuberculosis of the Bladder. Homer E. Fraser.
66 Serum Therapy in Streptococcal Injection. Earl H. Mayne.

Oklahoma Medical Journal (Guthrie), July.

67 Obstetrics. S. E. Knight.
68 Has Medicine a Scientific Basis? U. L. Russell.

Albany Medical Annals, August.

69 Biographical Sketch of the Late Professor Maurice Perkins, M.D., of Schenectady, N. Y. Willis G. Tucker.
70 *The Bacteriology of Lobular Pneumonia, Especially in Adults. George Blumer.
71 *A Single Experience with Von Ruck's "Tuberculinum Purificatum. Wilfred S. Hale.
72 Some Observations on the Treatment of Cough. G. Franklin Smith.
73 A Case of Purpura Hemorrhagica. E. E. Hinman.

Canadian Journal of Medicine and Surgery (Toronto), August.

74 Ectopic Gestation. R. W. Garrett.
75 The Early Recognition and Treatment of Pulmonary Tuberculosis. Alexander McPhedran.
76 Remarks on Modern Views of the Sources of Typhoid Fever. J. J. Cassidy.

St. Louis Medical and Surgical Journal, August.

77 A Case of Keratosis Palmaris et Plantaris. A. H. Ohmann-Dumesnil.
78 Some of the Difficulties of Getting Europe to Adopt International Leper Law. Albert S. Ashmead.
79 An Ointment for Diseased Mucous Surfaces. A. S. MacDonell.
80 *Home Treatment of Tuberculosis. Lawrence F. Flick.

Virginia Medical Semi-Monthly (Richmond), July 26.

81 *Tonsillitis from the Standpoint of the General Practitioner. A. L. Gray.
82 Penetrating Gunshot Wound of the Abdomen. Thomas D. Burgess.
83 Clinical Value of Some of the Newer Hypnotics: Dormiol; Chloretone; Hedonal. Albert E. Brownrigg.
84 *A New and Original Method of Operating upon the Inguinal Canal. Jacob Michaux.
85 Autopsies, How Made, and Their Interpretation. C. W. Canan.

Medical Summary (Philadelphia), August.

86 Prolapsus of the Anus and Rectum. George J. Monroe.
87 Advertising vs. Ethics. Floyd Clendenen.
88 Typhoid Fever. S. A. Buchanan.
89 Disease and Old Age. J. L. Wolfe.
90 Natural Laws. W. F. Ball.
91 Methylene-Blue. Ira A. Marshall.
92 The Treatment of Typhoid Fever. Charles W. McIntyre.

Pediatrics (N. Y.), August 1.

93 Clinical Demonstrations at the New York Post-Graduate Medical School and Hospital. Augustus Caille.
94 *High Temperatures in Scarlatina and Measles, as Related to Gastrointestinal Toxins and Fermentation. Arthur DeVoe.
95 *Suppression of Urine. M. H. Fussell.
96 A Case of Taenia Saginata in a Child of Twenty-four Months from the Use of Raw Scraped Beef for the Relief of Chronic Intestinal Disturbance. D. J. Milton Miller.
97 A Case Resembling Morbus Caeruleus, Probably Due to a Dusting Powder Containing Acetanilid. Samuel W. Earp.

Medical Times (N. Y.), August.

98 Case of Brain Tumor. Samuel G. Dabney.
99 Two Cases of Secondary Hemorrhage. Ewing Marshall.
100 Genu-Valgum; Nephrectomy. J. R. Wathen.
101 Anemonin. Wm. F. Waugh.

Southern Practitioner (Nashville, Tenn.), August.

102 Annual Address before the Nashville Academy of Medicine. A. B. Cooke.
103 Ergoapiol (Smith) as an Emmenagogue and Oxytocic. M. A. Auerbach.

Maryland Medical Journal (Baltimore), August.

104 *The Prevention of Tuberculous Disease in Infancy and Childhood. S. A. Knopf.
105 *Registration of Tuberculosis. Lawrence Flick.
106 *Distribution of Tuberculosis in the City of Baltimore. C. Hampson Jones.
107 Care of the Indigent Tuberculous. H. Warren Buckler.

Carolina Medical Journal (Charlotte), July.

108 Exhibition of Three Cases. (Necrosis of ileum, etc.) H. A. Royster.
109 The Importance of Early Diagnosis and Treatment of Tuberculosis. J. P. Munroe.
110 The Conservative Treatment of Diseases of the Uterus. John Thames.
111 The Problem of Typhoid Fever in the Rural Districts of North Carolina. H. W. Lewis.

Dominion Medical Monthly (Toronto), July.

112 President's Address, Ontario Medical Association. Angus MacKinnon.
113 *Results of Experiments with Diphtheria Antitoxin at the Isolation Hospital, Toronto. E. B. Shuttleworth.

Atlanta Journal-Record of Medicine, August.

114 A Case of Splenectomy, with Remarks. J. P. Bryson.
115 Vaccination. Joseph Grindon.
116 The Physiological Therapeutics of Religious Mania. C. A. F. Lindorme.
117 Tonsillitis from the Standpoint of the General Practitioner. A. L. Gray.
118 A New Non-Surgical Treatment for Inflammatory Exudates and their Residua in the Female Pelvis. Hugo Ehrenfest.
119 An Unusual and Probably Unique Complication (General Emphysema) of Tracheotomy. E. C. Ellett.

Journal of Tuberculosis (Asheville, N. C.), July.

120 *Tuberculosis of the Upper Air Passages. Albert Rosenberg.
121 *Steps in the Prevention of the Spread of Tuberculosis. F. M. Pottenger.
122 *Tuberculosis Due to Toxemic States. T. D. Crothers.

123 *A Single Experience with Von Ruck's Tuberculinum Purifactum. Wilfred S. Hale.
124 A Contribution to the Question of People's Sanitaria. Hans Weicker.

Mississippi Medical Record (Vicksburg), August.

125 Report of Four Cases of Puerperal Eclampsia Treated with Norwood's Tr. Veratrum Viride. W. A. Johns.
126 Treatment of Typhoid Fever in the Tom Franklin Hospital, Columbus, Miss. May F. Jones.
127 Ergot in Obstetrics. E. F. Jones.
128 Treatment of Whooping Cough. H. H. Haralson.

Fort Wayne Medical Journal-Magazine, July.

129 *Puerperal Sepsis—A Plea for Greater Accuracy in Diagnosis, to the End that the Treatment May be More Rational and Effective. Miles F. Porter.
130 The Rationale of Subjective Healing. Smith Baker.

Kansas City Medical Index-Lancet, August.

131 Suggestive Therapeutics. Oliver McEuen.
132 Pharyngeal Adenoids and Their Treatment Viewed from the Standpoint of a Country Doctor. J. F. Welch.
133 *The Treatment of Acute Insanities. John Punton.
134 An Unusually Large Dermoid Cyst. W. J. Frick.
135 Some Remarks on the Treatment of Toothache and Other Forms of Neuralgia. A. Toepfer.

AMERICAN.

1. **Diuretics and Kidney Disease.**—Elliott classifies the diuretics and discusses their action. 1. Except in cases of irritant-epithelial diuretics (turpentine, cantharides, etc.), the entire class of diuretics may be said to exert its effect on the urine by acting indirectly through the circulation. 2. Owing to the necessity of sparing the kidneys all irritation, drugs given for diuretic purposes should act indirectly rather than directly, consequently the secretory diuretics are contraindicated in irritative and inflammatory renal conditions. 3. In functional urinary disorders, diuretics are mainly useful to overcome concentration and hyperacidity of the urine, and simple diluents and salines are the best. 4. In acute nephritis salines are permissible throughout and are beneficial by increasing elimination and clearing the tubules of inflammatory débris. Subcutaneous saline infusions are the best eliminants in desperate cases. 5. In chronic nephritis the cardio-vascular diuretics are most useful, owing to the fact that oliguria and dropsy are usually the results of circulatory failure. Dropsy under such circumstances, being of cardiac origin, may be benefited by cardio-vascular stimulants in case the kidneys are not too much damaged. 6. Dropsy of purely renal origin is not amenable to favorable influence by diuretics. 7. Although the morbid processes in the kidneys may give the primary suggestion, the condition of the heart and the circulatory apparatus in most cases determine the choice of an agent.

2. **Subacute and Chronic Heart Disease.**—The newer methods of treatment, according to Satterthwaite, consist in rest alternated with bodily activity, determination of blood to the periphery rather than venesection, and a careful rigid diet with stomachics if necessary. He holds that systemic invigorants or alteratives with or without mild cardiac sedatives should supplant the so-called heart stimulants now employed, reserving the latter for emergencies arising from complications such as pneumonia, advanced Bright's disease, diabetes, abdominal dropsy, and where the aim is merely to sustain life during the period of cardiac strain. He insists on the importance of exercise, but does not disparage rest, though too much of the latter tends to cause degeneration. Complete rest has been supplanted by rest alternated with bodily activity; venesection by the determination of the blood to the surface, with resistant exercise and carbonated baths; and hydragogue cathartics have been replaced by mild stomachics, laxatives and diuretics; and heart stimulants by general nerve stimulants or sedatives and nutrients. While drugs of the digitalis group are utilized chiefly for their diuretic action in renal complications, viz., parenchymatous nephritis or abdominal dropsy, drugs of this digitalis group, which includes strophanthus, convallaria and adonis, are always uncertain, and therefore always dangerous and should be employed either only when other remedies are inadvisable or when we are endeavoring merely to prolong life.

6. **Renal Function in Life Insurance.**—The urinary abnormalities, especially albuminuria, and their relation to life insurance are discussed by Hickey, who thinks that the medical examiner is justified in recommending for insurance any applicant (below middle life) whose urine may have shown albumin or casts or both, only after continued observation for a long time, and even then, only as a sub-standard risk. The only exception to this rule may be made in the case where, with other evidences of perfect health, the use of the centrifuge revealed only a few stray hyaline casts. After middle life the rule should be practically absolute against recommendation in this class of cases. In many cases near or past middle life the condition of the heart and blood vessels is important. The apex beat beyond the nipple line, an accentuated aortic second sound, with a moderate atheroma, with increased pulse tension should be suspiciously suggestive of a contracted kidney. In this condition of low specific gravity of the urine the albumin is often absent for days together, and special tests and delicate examinations are required.

7. **Yellow Fever.**—Reed gives a review of his experiments and the conclusions to which he has been led. He criticizes the evidence which is advanced against them, and says he has not found in the literature a case of infection by fomites reported that will bear intelligent criticism. His paper is a rather elaborate statement and a very strong argument in favor of his point of view.

8. **Empyema of the Antrum in Children.**—Mayer reports a case in addition to the dozen or so in the literature and discusses the condition generally. He is inclined to believe that infection of the antrum of Highmore is quite common in fatal cases of diphtheria and scarlet fever and probably may occur in some cases which end in recovery. In all reported cases the symptoms are the same: Fistula under the eye usually discharging pus, ectropion, one-sided purulent discharge from the nose with foul odor and eroded bone. Careful observation, especially in nasal diphtheria, may enable us to discover these cases. Incision, curettage and thorough drainage will be followed by complete cure in the vast majority of cases.

9. **Cocain.**—The sterilization of cocain for spinal anesthesia is apparently not always duly observed and Riley offers a method of dry sterilization which he thinks fills all requirements and which he gives as follows: Carefully selected muriate of cocain is broken in a mortar into moderately fine fragments and heated in a dry sterilizer to 110 C. for about twenty minutes and then bottled in a clean, dry bottle with a tightly-fitting rubber stopper. This insures a dry salt to begin with, which is quite essential for the after-process. Small graduated vials or glass tubes are taken and carefully cleansed, dried and flamed, and when cool such an amount of the cocain is weighed off into each as will make, when the vials are filled to this mark with sterilized water, a 2 per cent. solution. The mouth of the tube is then closely stoppered with a plug of freshly dry-sterilized absorbent cotton (150-160 C. for one hour). It is then placed in a dry sterilizer and the temperature gradually raised to from 145 to 150 C. and maintained at that temperature for from ten to sixty minutes. Ten minutes is usually sufficient time to fulfill all bacteriological requirements, but there might be a possibility of contamination with certain spores which would require the longer period. One hour's heating of this dried cocain at this temperature does not impair its efficiency, notwithstanding many statements in the books to the contrary. The advantages offered in this method are stated by him as follows: 1. Perfect sterility. 2. The product being dry it lasts an indefinite time, the only thing being necessary when required for use is to sterilize the outside of the container in any convenient manner except boiling—as, for instance, simply flame the cork and neck of the vial, allowing it to become cool before adding water. 3. No necessity to weigh or measure the cocain or water at the time of the operation. 4. Absolute efficiency.

13. **Bucco-Antral Route in Neurectomy.**—King has adopted the plan recommended by Fraenkel for neurectomy of

the trigeminus in obstinate neuralgia and reports two cases. He has modified the Fraenkel method somewhat in such a way as to simplify the procedure and resect a greater length of the nerve and at the same time to assure complete closure of the buccal wound by dispensing with the gauze drain. After incising the mucous membrane and periosteum covering the anterior wall of the antrum, he elevates the periosteum as far up as the infra-orbital foramen, divides the nerve at this point, and opens the entire canal into the antrum. This dispenses, in a measure, with the necessity for a strong light to illuminate the cavity in order to find the nerve in the deeper parts. He also finds no special advantage in a bony flap provided the periosteum is well sutured over the opening made in the anterior wall, as no depression of the cheek results from deficiency of the bone. He found it expedient to remove the nerve by twisting and evulsion instead of cutting through it. In conclusion he pleads for extracranial resection of the nerve trunks in cases of obstinate trifacial neuralgia before resorting to such dangerous operations as are required for resection of the Gasserian ganglion.

15. **Heart Disease.**—The methods of diagnosis of heart disease are reviewed by Fussell, who insists on the diagnosis of cardiac lesion being based on the size of the heart, on its rhythm, on the character of the first sound, and in some cases on the presence or absence of murmur. A heart may be much damaged and give no murmur. An extremely loud murmur may be present and yet the heart be fully competent.

16. **Painful Affections of the Feet.**—While we have apparatus for flat foot and other pedal derangements nowadays, some cases are still resistant, and Peckham speaks of the advantages of massage for such, and also the use of hot-air treatment. He found it of very much benefit in almost every painful case. To save expense he substituted a pail of hot water for the dry heat with very good results and he has been able to have massage given by members of the household instead of a trained operator in all cases. The exercises for the gymnastic work that have been most beneficial are those recommended by Whitman and are best done by the patient sitting, letting the legs rest across a chair or stool. Several cases are reported.

17. **Raynaud's Disease.**—Lyle and Greiwe report a case of Raynaud's disease passing into gangrene and ending in death with pathologic findings in the cord. They consider that we can not long look on Raynaud's disease as simply one of the disorder of the extremities, but rather as a disease of the extremities of the arteries, and we may have a consequent degeneration of not only the extremities, but in the internal organs as well. He thinks we have probably two classes of cases: 1. Those in which the exciting cause acts temporarily and, on cessation, its symptoms disappear. 2. Those in which the cause is yet unknown, acts on the peripheral vessels and causes changes in the caliber by proliferation of the endothelium.

19. **Fusel-Oil Poisoning.**—The literature contains but a few cases of poisoning by fusel oil, and Futcher here reproduces the few which have been reported and reports a couple of his own observation. He also notices Thierfelder and Mering's experiments and reports his own on dogs. His conclusions are as follows: 1. Fusel oil, when administered to animals, causes the elimination in the urine of combined glycuronic acid which reduces alkaline, copper and bismuth solutions and acts as a levorotation to polarized rays. 2. When taken by men it acts as a profound intoxicant, causing unconsciousness of several hours' duration. 3. In one of the cases it was followed by symptoms of hemiplegia. 4. In certain cases, fusel oil is a profound blood destroyer and causes methemoglobinuria. 5. In both cases it caused transitory nephritis. 6. In both patients a glycosuria lasting two or three days was produced. 7. In the two cases there was fairly conclusive evidence that combined glycuronic acid (gepaarte Glukuronsäure) was present in addition to glucose.

20. **Acute Dilatation of the Stomach.**—Little has been said about the acute form of gastric dilatation, though it has been noticed and reported by certain authors. The literature is reviewed by Friedenwald, who reports a couple of cases under his own observation, both due to sudden overloading of the stomach or some gross error in diet. There are certain characteristic symptoms which he notices. These are sudden and rapid distention of the stomach, pain and absence of peristaltic movements, absence of vomiting and diarrhea in the beginning but followed by intense and constant vomiting of greenish fluid, accompanied by great exhaustion. It is probable, as Friedenwald points out, that acute dilatation of the stomach does not occur more often because the stomach in most cases of acute indigestion relieves itself quickly by vomiting and diarrhea. It is, therefore, well to remember in all cases of dyspepsia the possibility of acute dilatation and to empty the stomach quickly and avoid the accumulation of fermented material, which may set up a permanent trouble.

21. **Vicious Circle After Gastro-Enterostomy.**—McGraw ends his paper in this issue with the following practical conclusions: 1. The "vicious circle" may occur whenever the duodenum becomes permanently distended, even though the efferent limb of the jejunum offers an open passage to the ingesta. In all operations of this kind, therefore, an entero-enterostomy should be added to the gastro-enterostomy in order that the duodenum may discharge its contents into the efferent portion of the jejunum. 2. It may also occur from obstruction due to spurs, twists, bends or other entanglements of the intestines. As such accidents may arise from a too short afferent limb of the jejunum, the anastomosis should always be made at such a distance from the duodenum as would make trouble from this cause impossible. The practice of turning the bowel around in order to make its peristaltic movements correspond with those of the stomach has no practical advantage whatever in cases of pyloric stenosis; but, on the contrary, complicates the operation and tends to form a trap in which the intestine may become entangled. It may besides drag the wall of the stomach into a fold which may obstruct the opening into the bowel. This method of joining the viscera should be discarded. 3. As the orifices of communication may, if made too small, contract and become obliterated, the opening should be made at least 5 cm. in length. The effects of any resulting spur-formation will be obviated by the entero-enterostomy. 4. The safest and best method of operating is that by the elastic ligature.

22.—See The Journal of August 3, p. 327.

23. **Blood Pressure.**—Howell and Brush have experimented with the methods of von Basch and Mosso, and give an analysis of their principles and utility. A number of experiments have been made in dogs on the diastolic and systolic pressure under varying conditions. The results are presented in a tabulated form. An examination of the table seems to justify the following: 1. The mean blood pressure as usually determined by means of the mercury manometer corresponds with a fair degree of accuracy with the arithmetrical mean of the maximum and minimum pressure. 2. Rise of blood pressure caused by an increased heart beat (section of both vagi) affects the diastolic pressure to a greater extent than the systolic pressure. 3. A fall of blood pressure occasioned by bacterial dilatation (section of both splanchnics affects systolic and diastolic pressures equally. In the section of one splanchnic, the fall affected the systolic more than the diastolic pressure, but the heart here was also affected, while section of the second splanchnic did not affect the heart at all and the physical effects of a purely vascular change would seem to be best shown under the latter conditions. 4. It is possible for the systolic and diastolic pressure to be affected in opposite directions, as in one experiment in which section of both vagi was intentionally accompanied by a profuse hemorrhage. In this case the mean pressure remained unchanged, the diastolic pressure rising 16 mm. and the systolic pressure falling 15 mm. These experiments, as far as they go, indicate that the general trend of arterial pressure when unaccompanied by hemorrhage is given by instruments measuring either the systolic or diastolic pressure. When possible it is most desirable that the results of one method should be checked by the other. He points out the precautions advis-

able in the use of Mosso's apparatus, where the connections should be rigid and extensible to prevent loss of pulsation. The fingers should be warmed before placing them in the apparatus and a spring recorder of some kind used if the heartbeats are so rapid as to give an uncertain maximum and account of the results should be taken only when the subject has become accustomed to the procedure and is in a relaxed condition. In comparative observations the hands should always be at the same height to equalize the hydrostatic factor. Some precautions are necessary with the Gaertner tonometer, especially regarding the pressure ring; the subject should become accustomed to the proceedings, and also to equalizing the hydrostatic factors. It is necessary to bear in mind also that in men and women there are periodic oscillations of arterial pressure.

24. **Bodily Mutilations and Longevity.**—The relations of bodily mutilation to longevity and life insurance problems are noticed by Homans, who thinks it generally may be said that deprivation of any important part of the body reduces the chances for long life, and he goes over them theoretically. Applicants with skull injuries and loss of substance would be below average as risks; but without loss of substance and symptoms, they would be unaffected from the insurance standpoint. Loss of sight from injury is not necessarily bad for longevity, but where the eye has been removed for malignant growth the case is different. The blind in comparatively comfortable circumstances are as long lived as anyone so far as his experience goes. Losses of the upper extremities are more important the nearer the amputations have been made to the thorax. He finds, however, that the moral effects of such mutilations have to be considered. A well-insured income in such cases would be a safeguard. Amputations of the lower limb average much the same as those of the upper limbs as regards longevity. As a class, persons who have suffered amputations are not so long lived as those unmutilated, but each case must be judged by itself. Injuries to the thorax such as removal of a small portion of one or two ribs for acute empyema, if successful, will not make a person uninsurable provided the lung functions are normal. Injuries to the heart when recovered from would cause declination. Abdominal mutilations as a rule increase the risk, excepting in cases of appendicitis. Persons who have had the appendix removed seem to have as good a chance for long life as any, and excision of small portions of the bowel, if successful, will likewise have little effect. It can not be told with accuracy what is the effect of ovarian operations, but he thinks that those who recover after hysterectomy for myomas have generally a greater probability of longevity than those who recover after ovariotomy, because myomata are seldom malignant. The possibility of ventral hernia is to be considered after abdominal operations. In conclusion, he thinks that people who have suffered amputation or other mutilations are likely to have their chances for long life lessened, but by careful selection many might be picked out who would be good subjects for life insurance.

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50. **School Ventilation.**—Hopkins criticizes the fan method of ventilation in Buffalo schools, considering it a clumsy heating system, inadequate and wasteful. It is a failure in inlet work and a more pronounced failure at outlet work and a determined failure as an air supply, lacking in uniformity, quantity and diffusion. The ideal school ventilation and air supply is a scientific problem of absorbing interest, in view of the fact that delicate and susceptible children and their future are influenced in this way. He makes a comparison between the schools of Buffalo ventilated by the fan system and certain schools of Evanston, Ill., ventilated by the Dickson system, which appears to be more than twice as efficient, though he still thinks it may possibly be open to criticism.

51. **Prostatic Hypertrophy.**—According to Clinton, prostatic hypertrophy is only to be treated surgically; but where catheterization is easy, the amount of residual urine small and no cystitis exists, and absorption is moderate, operation should not be thought of. When it is needed prostatectomy is the ideal method. He prefers the Alexander method of enucleation, with suprapubic incision of the bladder and perineal incision.

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34. **Appendicitis.**—The point made by Carpenter is that appendicitis is a surgical disease and should be treated as such. He also insists on the importance of the general practitioner recognizing the disease in time and calling in proper surgical aid.

39. **Traumatic Neurosis.**—The main point of Moyer's article is that while there are actual functional disturbances due to traumatism, he does not recognize any special form as the result of such cause. There is no difference between neurasthenia caused by traumatism and that due to autointoxication. The special points of diagnosis between hysteria and hypochondria are mentioned and the over-importance attributed to spinal pain.

40. **Home Treatment of Tuberculosis.**—The hygiene of the patient's daily life is of first importance in the management of consumption, building up of tissue-resistance by superalimentation, open-air life governed by the patient's temperature, hydrotherapy and general care as to metabolism and regulations of daily life. While these are best obtained at a sanatorium they can also be had at home. Babcock advises his patients to take nourishment five to seven times a day and insists on the value of raw eggs and milk and meat diet. We must not listen to patient's assertions that they can not eat so much. He speaks of a young man who had taken fifteen raw eggs and three quarts of milk daily, gained twenty-eight pounds and lost all symptoms of incipient tuberculosis between November and February. Hydrotherapy is also insisted on and the methods described.

50. **School Ventilation.**—Hopkins criticizes the fan method of ventilation in Buffalo schools, considering it a clumsy heating system, inadequate and wasteful. It is a failure in inlet work and a more pronounced failure at outlet work and a determined failure as an air supply, lacking in uniformity, quantity and diffusion. The ideal school ventilation and air supply is a scientific problem of absorbing interest, in view of the fact that delicate and susceptible children and their future are influenced in this way. He makes a comparison between the schools of Buffalo ventilated by the fan system and certain schools of Evanston, Ill., ventilated by the Dickson system, which appears to be more than twice as efficient, though he still thinks it may possibly be open to criticism.

51. **Prostatic Hypertrophy.**—According to Clinton, prostatic hypertrophy is only to be treated surgically; but where catheterization is easy, the amount of residual urine small and no cystitis exists, and absorption is moderate, operation should not be thought of. When it is needed prostatectomy is the ideal method. He prefers the Alexander method of enucleation, with suprapubic incision of the bladder and perineal incision.

52. **Medicine from a Business Standpoint.**—Harrington's address lays down a few general rules for the beginning prac-

titioner. The hard and fast fee tables should not be followed; charges should be made according to the means of the patient. He should take just as good care of those who can pay little as of those who can pay much. He should not allow his office to become a lounging place, nor should he become too familiar with druggists. He should recommend cases to specialists whenever necessary and consent to consultation whenever desired. He should make no contracts with lodges or fraternal associations. He should be honest with patients and cheerful in the sickroom without levity. He should always speak well of fellow practitioners, and it is just as well not to criticise irregulars. He should dress properly, should not smoke during working hours, should do some general reading, be considerate to other beginners, and bear in mind there is no limit to human stupidity. The doctor is expected to elevate and educate the masses to the proper understanding of rules and regulations of health and hygiene, and to teach, both by precept and example, temperance, honesty, charity and mortality.

59.—See abstract in The Journal, xxxvi, p. 1725.

60.—*Ibid.*

61.—Ibid.

62.—*Ibid.*

63.—Ibid.

70. **Bacteriology of Lobar Pneumonia.**—The technique employed in a series of 71 cases and autopsies of pneumonia is described by Blumer. The cultures were taken from the surface of the lung by burning it with a red-hot knife, a puncture being also made through the burned area and cultures being taken from the puncture. Cultures were made on agar and on blood serum slants, preferably the latter, and the organisms isolated were studied on different media. The tubes made at autopsy were usually plated subsequently and, if there was any doubt, animal inoculations were resorted to. Cover slides were *made in some cases, but unfortunately not* in all. The diagnosis of lobar pneumonia was in every case confirmed by the microscope. Fifty-three cases were of adults, 23 of them being single infections. The bacterial incidence was as follows: streptococcus, 9; colon, 8; staphylococcus aureus, 7; proteus vulgaris, 3; pyocyaneus and paracolon, each 2; pneumococcus and staphylococcus albus each, 1. In 20 cases of mixed infection the incidence was as follows: colon and aureus, 4; colon and streptococcus, 3; aureus and streptococcus, 3; colon and pneumococcus, 2; colon and citreus, 2; typhoid and streptococcus, 2; colon and pyocyaneus, pneumococcus and pyocyaneus, colon and albus, lactis aerogenes and streptococcus, each, 1. Eighteen cases were in children; 12 were single infections, 5 were streptococcus, 2 aureus, 2 colon, 1 pyocyaneus, 1 an unidentified bacillus and 1 sterile. Of the 6 mixed infections, 3 were due to aureus and streptococcus, 2 to colon and streptococcus, and 1 to aureus albus and streptococcus. It will be seen here that the pneumococcus is rarely prominent in these cases. This rarity is explainable on several grounds. It occasionally fails to grow on media even at incubation temperature and might be missed without cover slip control. It is easily outgrown by other organisms, especially the colon bacillus, which was present in quite a large percentage of the cases. The rarity of Friedlaender's bacillus is not so explainable, and Blumer suggests that there may be a possibility that organisms which are common in one geographic locality are rare in another. The frequency of the colon bacillus, he thinks, is largely due to agonal or postmortem invasions, and he has studied the incidence of the bacilli in other conditions, bearing in mind the fact that it is urged that while normal lungs may be sterile, they frequently contain pathogenic bacteria. He studied the lungs in the acute and chronic passive congestions, in edema, and in combination of these conditions. Of 20 lungs acutely congested, 6 were sterile, and the other 14 contained varieties of bacteria: colon, aureus, albus and Friedlander's. The streptococcus alone was found twice. In all but 6 cases there was a general infection other than the pulmonary one. Of 6 cases of chronic passive congestion all were sterile. In 4 cases of edema all contained bacteria, 1 pneumococcus, 2 proteus vulgaris, each aureus and colon. Seventeen lungs which were edematous and congested were examined and only 2 were steril Four normal lungs were *examined, all containing* bacteria; showed the colon, 2 colon and albus, and 1 streptococcus In all the cases where the colon was found there was a general invasion. In 1 albus case there was a general albus infection. Results showed that both in the acutely inflame and congested edematous lungs in patients dying *of the* disease, the bacilli in the lungs are often present in the genera circulation also, the germs being carried in the circulation The cases which he has examined, including numbers of cases o broncho and lobar pneumonia, seem to show that in merel congested and edematous lungs, as with broncho-pneumonia a general infection is frequently present. As in many of thes cases no bacterial lesion can be found aside from the pulmonary one, it seems likely that the lungs are much mor frequently the portal of entry in general infection than i usually supposed, and this often without marked pulmonar lesions.

71. **Tuberculinum Purificatum.**—Hale reports a case o nasal tuberculosis treated with Von Ruck's tuberculinun purificatum by injection, beginning with 20 minims of th solution containing about one-fifth of tuberculin and rapidl increasing the amount, soon giving it almost pure. In spit of excessive ulceration and bone necrosis the result wa *excellent. There* was *complete absence of objectionable* symptoms in spite of the rapid increase of dosage.

80.—This article has appeared elsewhere. See The Journal, xxxvi, title 95, p. 1587.

81. **Tonsillitis.**—Gray holds that follicular tonsillitis i due to specific bacteria and that in time its infectious natur will be firmly established. We make a mistake when we allow our patients to be associated for any length of tim with other members of the family. While not usually a fata disease, he knows of no febrile disorder that renders its victims more miserable for the time being than tonsillitis.

84. **Operation upon the Inguinal Canal.**—Michaux calls attention to a method he has used in performing the Alexander operation, that is, separating the fibers of the aponeurosis of the external oblique muscle, and drawing them widely apart with retractors along the line of incision. In closing the incision he has also included the fibers of the aponeurosis of the external oblique along the margin of the opening made by the separation in stitches in order to secure firm union. This method was reported some time since, but has been redevised by a gentleman in Canada, and Michaux claims priority.

94. **High Temperatures in Scarlatina.**—DeVce calls attention to the connection of high temperatures in scarlet fever and measles with gastro-intestinal disturbance. The treatment he specially suggests is attention to the condition of the digestive tract from the mouth down. He would employ enemas or frequent flushing of the bowel as a part of the treatment, not, of course, interfering with intestinal antiseptics or the use of laxatives.

95. **Suppression of Urine.**—Fussell calls attention to suppression of the urine in a case observed by him, in which the child died of tubercular meningitis. The symptom is rare in this disorder, and the books which he has consulted make no mention of it. He thinks the symptom was of reflex origin.

104. **Tuberculosis of Infants.**—The importance of direct heredity is considered slight by Knopf, and he thinks children are rarely born tuberculous. According to Küss the maximum death-rate of tuberculosis of childhood is at between two and four years. We have no statistics as regards the mode of infection; it would be unscientific to attribute it generally to the ingestion of milk, and intestinal tuberculosis may be secondary as children do not expectorate. A careless consumptive in the family is a special danger to children, and he given instances which support this view. Inoculation is rare unless it be from ritual circumcision, but when the child begins to get around over the floor it is exposed to

special dangers, as it will touch everything on or near the floor and then put its fingers into the mouth, and otherwise infect itself. To counteract these dangers he would have leaflets issued by the board of health and distributed to give to the future mother, nurse, and members of the family, containing everything in regard to prophylaxis, general cleanliness, ventilation, nutrition, etc. Nursing by a tuberculous mother is, of course, prohibited. In fact he thinks that if the child should be removed from the parents' home to board elsewhere, one should be sure that there is no consumption in the new home. Wherever possible cow's milk should be replaced by goat's milk. Kissing should be prohibited, and caressing and kissing of domestic pets. The floors should be kept clean and not carpeted. Visits to menageries should be with due precautions; school hygiene should be improved and the fundamental principles of hygiene, especially as regards tuberculosis and its prevention, should be part of the teaching in every school. Kissing should be discouraged in girls' schools as unhygienic. The proper bringing-up of children will have a tendency to lessen the risks, and he considers air baths and sun baths of the greatest importance. Hydrotherapy for the development of the vasomotor system to more vigorous action should be instituted at an early age. The employment of children under 14 years of age in industries is especially condemnable and he suggests as a philanthropic enterprise to furnish a good lunch to the underfed school children of our poorer districts. The recent exclusion of tuberculous children from schools in the State of Colorado is mentioned; there should be special schools for such children; without this, it could not be commended.

105. **Registration of Tuberculosis.**—Flick pleads for the registration of tuberculosis; that it is necessary and a potent factor in the scheme for its prevention. He sums up: "Tuberculosis is a contagious disease; it is a preventable disease; the center from which contagion spreads is the host; this center is limited and circumscribed; prevention of the disease is not only practicable, but easy; the keynote to prevention is control of the host; the whereabouts of the host can only be known through registration; opposition to registration is based upon false notions, fancy and sentiment; for a comprehensive scheme of prevention, governmental interference is necessary; under existing circumstances governmental interference can only take place through boards of health."

106. **Distribution of Tuberculosis in the City of Baltimore.**—Jones analyzes the death reports from tuberculosis in Baltimore and calls attention to the occupation, especially the number of cases of clerks, servants, housewives, school teachers and school children, and also to the large number of deaths which occurred in those parts of the city where narrow streets and alleys exist and where the houses are overcrowded. The milk supply of Baltimore is being investigated to show how far it is responsible for the distribution of tuberculosis.

113. **Antitoxin.**—Shuttleworth gives the results of a series of experiments with antitoxin in the Isolation Hospital at Toronto, which disagree with the average statistics on this subject. He finds an unfavorable showing for antitoxin in cases treated, though his statistics are possibly subject to some criticism. The average dose of antitoxin in 100 cases was 1122 units, which is not up to the amount now advised.

120. **Tuberculosis of the Upper Air-Passages.**—Rosenberg's article reviews the various tuberculous lesions that may exist in the upper air-passages and their methods of transmission, such as tuberculosis of the nasal mucosa, in the form of granulations, infiltrations, ulcerations or tumors; that of the nasopharynx, which is rare and occurs also in the form of ulceration; and tumor and tuberculosis of the pharyngeal tonsil. Tuberculosis of the pharynx is also comparatively rare, occurring mostly in the male sex and generally in youth. It occurs relatively often among young country people and he suggests the use of milk from infected cattle; mouth-breathing may also be a cause. Lupus in this situation occurs more often in the female and is a consequence of lupus of the skin and of the nasal mucosa and its appearance is decidedly different from that of tuberculosis. The mucous membrane is of a pale or more often of a bright red color, somewhat swollen, drier, and appears as if filled with granulations. The nodules are round, smooth and pale red and the occurrence of interstitial atrophy with scar formation makes the picture more characteristic. Tuberculosis of the larynx is most common and is treated at considerable length. It may appear in the form of infiltrations, ulcerations, perichondritis or tumor. The prognosis depends upon the state of the lungs, the general condition of the patient, and the extent and seat of the disease in the larynx. Rosenberg thinks that there has been a wrong idea as to the importance of climate for these cases. Too high an altitude is not suitable. The best place for such cases is in a sanatorium in a favorable climate where a resident physician is conversant with all the methods of local treatment of such cases.

121. **Prevention of Tuberculosis.**—The battle against the spread of tuberculosis, Pottenger thinks, must be fought by the general practitioner. The time is not far distant when a physician who passes over a case of incipient consumption will be held culpable. There is no reason why, if a physician is on the alert, that he can not discover it in many cases in the earliest stages. He is also an advocate of the tuberculin test, which he thinks if used in time would reveal many cases and enable them to be treated with success.

122. **Tuberculosis from Toxemic States.**—The conclusions of Crothers' paper are that tuberculosis in this climate follows autointoxication and poisoned states of the body. After it is once established, numerous and complex toxemias follow which intensify and increase the disease. Toxemias following overwork, bad nutrition, etc., are very common, and can be prevented by a larger knowledge with common hygiene. Alcohol in all forms is a very potent cause of toxemia. Inebriety is very closely allied as a disease to tuberculosis; it not only precedes the growth but increases it, by intensifying the degeneration and by lessening vigor. Both these diseases depend upon toxemias formed in the body and poisons introduced from without. Both are associated with defective nutrition and elimination and faulty metabolism. In the treatment of tuberculosis the most important danger to be avoided is that of poisons generated within the body, and the elimination of these toxins and avoidance of all that cause them is essential. Reinfection from the tuberculous germ in the air, in the clothing and from other sources can be largely prevented by isolation and correction of the source. The restoration of vigor and the lost resisting power is best obtained by a study of nutrition and the utilization of foods that can be digested without damage from the waste of overfeeding. The scientific treatment of tuberculosis and its effectual stamping out and prevention must depend largely upon studies of nutrition and surroundings, and the breaking up of sources of poisons which perpetuate the disease.

123. This article has appeared elsewhere. See also paragraph 71.

129. **Puerperal Sepsis.**—The terms puerperal sepsis and *puerperal infection* are criticised by Porter, who considers that such a diagnosis is inadequate, the terms here defined being applied to cases differing widely in pathology and requiring radically different treatment. This looseness and inaccuracy of nomenclature has led and will continue to lead to improper and harmful methods in the management of these cases. While practical accuracy in the diagnosis is easy in these conditions, it is also essential to correct treatment.

133. **Insanity.**—Punton's article is a plea for the treatment of cases of insanity in small private hospitals and outside of public institutions. He claims that the associations are not the best in these large institutions for the mild and acute forms. What is best suited for these are sane surroundings with cheerful companions, homelike comforts, and peaceful quiet, which only a small hospital or sanatorium can furnish. The association with a large number of chronic cases he also thinks is damaging.

FOREIGN.

British Medical Journal, August 3.

Address in Medicine at Annual Meeting of the British Medical Association. James F. Goodhart.—This address reviews the questions of the difficulties of medicine and the inscrutable problems which it involves. He finds while the average duration of life is longer, medicine is not less in demand, or ailing people less frequently in evidence; that the public has the little knowledge which is a dangerous thing and it makes difficulties for the physician by demanding to know too much. Every patient has his own ideas as to his case and demands to have his disease ticketed and identified which no man can always do. He says a woman with migraine has usually gone the rounds of every coal-tar product that was ever invented before she thinks of applying to a physician. Most people know all about lithia, piperazine, etc., and have their favorite drugs. Men and women of the present day rush immediately into the not sufficiently repellant arms of surgery. Doctors also are not free from fads. We do not appreciate sufficiently the wide range of health and how commonly slight and even considerable depressions from the normal are passed without danger. One would think from the teaching of the present day that the heart is so fragile an organ that it needs to be coddled from the cradle to the grave. The stomach also is a fad. It is really a good, strong, healthy servant with possibly a prejudice or two and if treated fairly is most obliging and thorough. The people will not have it, however, that all its little ailments are not serious ones. Throats, noses and ears are being swept into the panic for operative surgery. We should dispense with giving drugs by rule of thumb. Fashionable drugs become the favorites of society, to have their boom and pass away and are dropped for later booms, such as the animal extract and antitoxin; and many of these will be dropped in time. The open-air treatment of consumption even is becoming a fad; medical antisepsis is another; routine methods used in this way, and others, such as the use of bromid in epilepsy, are dangers of the present time. The difficulties of diagnosis are also mentioned. He says when he first entered Guy's Hospital it was a common saying about one of the staff, who was one of the best physicians of that day, that he knew so much that he could seldom be prevailed upon to give a positive diagnosis. Knowledge brings doubts and limitations. He thinks the value of medical advice is not appreciated; we have made it too common. Sir Andrew Clark was wise when asked to give a gratuitous advice and he said "No," but that he would give the money for which it could be purchased. Everybody flocks to the doctor's room and hospitals asking alms in the shape of advice and having given it we are insulted by being called trade-unionists. We must not forget the importance to the well-being of medicine of the just rewards that it deserves.

Address in Surgery. William Thomson.—The results of the South African war in military surgery are discussed by Thomson, who calls attention to the different methods of warfare at the present time as compared with those of the past, and the slight experience we had up to the Boer war with modern weapons. War is now a war of small arms and the vast majority of the wounds received in South Africa were caused by a bullet from modern military rifles. The notion that the elongated bullet enters at right angles is subject to many exceptions. Many things may happen after it leaves the gun. It is often deflected and makes its impact at all sorts of angles, the ricocheted bullet often closely resembling a bursting charge; he mentions a case illustrating this. In wounds of the soft parts the majority were but slight and recovery quick. The bullet undoubtedly became disinfected in its passage through the barrel of the gun, and the wound resembled that of a piece of small, clean, hard metal. The second cause for good results was the early application of the first dressing in the field. The third cause was the climate, which was specially favorable to antisepsis; there would have been much more suppuration in a moister climate. Wounds of the bones were more severe and fractures are frequent. In the cancellous structure direct perforation was more common. He can not give exact figures from the campaign in South Africa, but he thinks in no war was there so small a number of amputations, the number of limbs saved so many, or the mortality from such operations so small. Wounds of the joints do more satisfactorily than ever before. Excisions were rare and amputations were only performed on the field when the vital parts were involved, or there was terrible destruction by shell, which was rare. As regards abdominal wounds, experience has taught that in the majority of cases operation is dangerous and this agrees with American experience. It is impossible to operate immediately on the spot and the mischief can be done before the patient can be carried to a central hospital. Many cases, however, of undoubted injury to the intestine recover; considering the difficulty of diagnosis in many instances at the outset, the fact that intestines may be found unwounded and if wounded may be occluded by natural processes if not interfered with, it seems to Thomson that, as we stand at present, the man whose abdomen is perforated by a small-bore bullet stands a better chance of life without operation than with it, bearing in mind the circumstances under which laparotomy must be performed. The number of lodged bullets was naturally lower than was formerly the case with the older weapons, and probing and searching for them is not in most cases justifiable. The only thing is to occlude the wound and secure it from contamination. In conclusion he speaks of the progress made by military surgery and the greater safety in war under present conditions. War is less terrible than it used to be.

The Lancet, August 3.

What Administrative Measures are Necessary for Preventing the Sale to the Public of Tuberculous Meat? Shirley F. Murphy.—The methods for prevention of the sale to the public of diseased meat are reviewed by the author, who finds the best resource in the establishment of public slaughtering houses and the doing away of private ones. He reviews the objections to this measure. He says the time has come when we should follow the excellent example that has been set by other countries and require all the animals that are killed in urban districts for public food to be slaughtered in public slaughter-houses, and be inspected before, at the time of, and after slaughtering: that the meat should be stamped and that the public should be taught to look for this stamp as the stamp of health rather than to rely upon the pathologic knowledge of the butcher or housewife. Further, all meats that have been killed outside a district, other than that which may have been killed in some public slaughter-house and duly inspected and stamped, should be taken to meat inspection stations for examination. There will no doubt be greater difficulty in the rural districts and small communities, but he thinks even here much can be done.

The Relation of Alcoholism to Tuberculosis. T. N. Kelynack.—There are three views in regard to the relation of alcoholism to tuberculosis, according to Kelynack. 1. The view that alcoholism is antagonistic to disease, which was held by a number of authorities in times past, but for which the evidence is weak, and the abolition of alcohol in many modern sanatoriums seems to indicate that experience is against it. 2. Many people hold that alcoholism bears no special relationship to tuberculosis, except as it lowers general nutrition and places individuals under conditions practically favorable to the disorder. There is no doubt that the consequences of alcoholism, such insanitary environment, insufficiency of food, depressing emotions and occupations inimical to health may have their damaging influences. 3. The view that alcoholism definitely predisposes to tuberculosis, which has of late years received much support, and he quotes from Dr. H. Mackenzie, Professor Thomas Oliver, Dr. Rolleston and others, who have pointed out an apparent direct connection between the two conditions. Alcoholism, as has been pointed out, predisposes the organism to germ infection and also by its influence on the nervous structures is liable to weaken the organs. The author has analyzed a number of fatal cases of peripheral neuritis occurring in chronic alcoholism; 8 cases were subject to pathologic examination, and primary tuberculosis was met in 7 of the 8. In 2 other cases of alcoholic multiple neuritis, 1 was decidedly tuberculous and the other edematous with patches of broncho-pneumonia. Thus, out of 10 fatal cases of alcoholic neuritis, 9 females and 1 male, 8 or 80 per cent. were consumptive, He also finds that tuberculosis is of frequent occurrence in subjects of alcoholic cirrhosis. In 121 cases, omitting all the doubtful and complicated ones, 28 showed tuberculosis, and active phthisis was present in 14. This made 25 per cent. with alcoholism and tuberculosis combined, and 10 per cent. dying directly from tuberculosis.

Legislation Suggested for Controlling and Eradicating Tuberculosis in Animals. Duncan McEachran.—The author gives the record of Canada as regards the diagnosis and prevention of tuberculosis in animals and reviews the laws in the various parts of the United States. He suggests the following legislation: "1. Tuberculosis should be included in the list of contagious diseases. Tuberculous animals should consequently come under the provisions of the Animal Contagious Disease Act; but the local authorities should have power to allow the sale and movement of such parts of the carcasses as are known not to carry contagion, such as hides, hoofs, horns, and hair, thus preventing unnecessary loss. 2. All foreign animals admitted for breeding or dairy purposes should be tested by the tuberculin test. Tuberculous animals should be prohibited from entering. 3. Tuberculin should be controlled and none but qualified veterinarians should be allowed to use it, and all reacting animals should be reported, marked and quarantined. 4. All animals showing clinical symptoms of tuberculosis, especially diseases of the udder, lungs, uterus or bowels, should be killed at once, and all scrub and grade animals reacting should be killed within six months. Pure-bred cattle may be bred from under Professor Bang's system in quarantine for life. 5. All testing, other than imported animals, should be by voluntary application for a test of the entire herd, and the expense should be borne by the state. A reaction of 2 to be understood to indicate tuberculosis, 1.5 as suspicious. Suspicious animals to be quarantined and retested in three months, unless clinical symptoms develop, when they should be at once condemned. The government to have a right to order a re-test when considered necessary. 6. Disinfection of premises should be ordered by special regulations the carrying out of which should be superintended by government officials."

Tuberculosis Among Australian Stock. G. Pentland.—According to Pentland, tuberculosis is steadily decreasing in Australian animals since 1885, according to the statistics of the city abattoirs.

Mortality Among Rats at the Capetown Docks Which Preceded the Present Epidemic of Plague. Alexander Edington.—After investigating the disease amongst rats in the docks of Capetown, Edington found evidence of a microbe, similar in many respects to that occurring in bubonic plague, but varying in others, especially in the lack of bipolar stain. He has had numerous opportunities of observing rats affected by bubonic plague at Port Elizabeth. This was not of the true bubonic type, but undoubtedly a variety of the microbe of hemorrhagic septicemia.

Archives de Med. des Enfants (Paris), iii, 10.

The Tuberculin Test in Infants. Metteta.—The results of the tuberculin test on 74 infants between two and twenty months old, are tabulated in three groups. The first contains the record of 18 with autopsies. In 12, the test had been positive, and tubercular lesions were found in each. In 6, the test had been negative, and no tubercular lesions were discovered. The second group contains 32 observations. The test resulted negatively in all and no clinical evidence of tuberculosis could be discovered in any instance. The third group contains 24 cases without autopsy. All in this series reacted to the tuberculin, and tuberculosis was clinically evident in a certain number, but in the rest, no symptoms of tuberculosis could be detected, merely whooping cough with pneumonia, rachitis, gastro-enteritis or syphilids—the affection for which they were under treatment. This last series indicates that tuberculosis existed in a latent form, or else, that certain other affections may exceptionally cause a reaction to the tuberculin test.

Bulletin de l'Academie de Medecine (Paris), July 9.

Cacodylic Medication. A. Gautier.—The Journal mentioned at the time Gautier's announcement that he had discovered arsenic in normal tissues as a physiologic element in the thyroid gland, skin, etc. He drew from this discovery the therapeutic conclusion that arsenic was indicated in certain morbid conditions, requiring small amounts of arsenic continuously for months and years. He found the cacodylic preparations best adapted for the purpose, and in this long communication describes his extensive experience with them. They have proved remarkably effective in wasting diseases, in pulmonary tuberculosis in the first and second stages, tuberculosis of the bones and viscera, diabetes, neurasthenia with general depression and diminished vitality, malarial cachexia, severe anemia, asthma, chorea, protracted convalescence, wounds with loss of surface, fractures, the consequences of repeated pregnancies, uncontrollable vomiting, myxedema, rebellious cutaneous affections, etc. They can be administered for years without disturbing the nutrition or inducing congestion in the liver, kidneys, intestines, nervous centers or skin. Their action is due to their influence on the reproduction of normal cells and of red corpuscles, rejuvenating the tissues and conferring on the entire organism an extraordinary resistance to the action of morbid causes. He describes a number of instances of each of the above affections, showing the remarkable effects attained by the cacodylates. The results were variable or doubtful in Parkinson's disease, in the degeneration accompanying mental disturbances and in cancer. The only safe way to give the cacodylates—sodium cacodylate is usually preferred—is by hypodermic injection, in doses of 5 to 20 cg. a day or even more, each series of seven to ten injections being followed by suspension for the same number of days. The individual dose must be determined for each patient, commencing with 25 mg., then 50 mg. for a week, recommencing with 50 to 100 mg. If improvement is marked, this dose is sufficient. If not, he increases it until signs of intolerance appear. The quantity needed varies in a wide range. Signs of intolerance are, first, congestive symptoms in the face; they are insignificant unless they persist and increase, or are accompanied by a condition of excitement preventing sleep, following the immoderate use of the drug. It should not be administered for four or five days before the menses, as it hastens them and increases the flow. One of the principal signs that the proper dose has been exceeded, is a buzzing or whistling sound in the ears. If the same dose is continued in spite of this warning, deafness or slight vertigo may follow. When the medication is continued without the necessary pauses, disturbances may be noted similar to those of excessive thyroid treatment. Fever, diarrhea and vomiting do not contra-indicate this "latent arsenic treatment," but hepatic insufficiency is an absolute contra-indication, and cancer, congestion and hypertrophy of the liver, icterus and cirrhosis demand extreme reserve in this cacodylic medication. Iodin is completely absent from the bodies of microbes and contributes powerfully toward the defense of the organism against infectious agents. It is also normally associated with arsenic in the thyroid gland. Consequently he considers iodin and food rich in easily assimilated mineral elements or a medicinal compound of them, effective adjuvants of cacodylic medication. His tuberculous patients take an hour before meals a dessertspoonful of a mixture of 5 gm. of sea-salt and 1 gm. each of potassium iodid and bromid, in water to make 100 c.c. During each meal they take 15 c.c. of a mixture of sea-salt 15 gm.; precipitated calcium phosphate 30 gm.; ammoniaco-magnesium phosphate 10 gm.; hydrochloric acid 30 gm.; crystallized citric acid 12 gm.; ammonium fluorid .15 gm.; sugar 100 gm. and water to make 300 c.c. He recommends the yolk of egg, taken raw and unbroken, with a little lemon juice or vinegar, as the best form in which these mineral elements in combination with organic iron, can be taken. He also recommends raw meat—mutton, not beef—scraped and rolled into pellets the size of a nut, swallowed at the close of the meal, without chewing. The juice can be taken instead of

out on a piece of fine linen, the phenolphthalein test shows that it is decidedly acid in normal conditions, although it is generally assumed to be alkaline. The eye of the horse is best adapted to this research on account of its size and the fluidity of the vitreous. In examining a large number of fresh horse eyes, Dor noticed that one was much less acid than the rest, and on investigation, discovered a lesion in it. This discovery was confirmed in numerous experiences and tests, all showing subnormal acidity in an injured eye. He conceived the idea that this subnormal acidity, or rather, alkalinization of the humors of the eye, constituted a defensive process on the part of the organism. Consequently, he reasoned, therapeutic measures to assist this alkalinization might re-enforce the organism in its struggle. He administered 100 gm. sodium carbonate to horses a few hours before they were killed, and found in every case that the vitreous humor had become much less acid than usual, when the eyes were examined after death. He then experimented on rabbits, and found that a rectal injection of 2 gm. of potassium iodid in 30 gm. of water, the day before the rabbit was inoculated with a culture of staphylococcus aureus in the vitreous, prevented the appearance of any inflammatory process in the eye, if the amount of the culture injected were not much larger than that required to induce a panophthalmitis in the control animal. The iodid also attenuated to a remarkable degree the course of the panophthalmitis induced by a large amount of culture injected. When a small amount of the culture was injected, the administration of the iodid—even several hours after the inoculation—was able to arrest the resulting panophthalmitis. The iodid or any other alkali, in subconjunctival injections, produced invariably negative or unfavorable results. As infection in man seldom or never occurs from a pure culture, and as the amount of the culture introduced seemed to influence to such an extent the appearance and course of experimental panophthalmitis, he concludes that the preliminary administration by the mouth or rectum of a sufficient dose of some alkali—preferably potassium iodid—would prevent the development of inflammation after operations on the eye, or at least attenuate its course. If it failed, no harm would have been done. Those who have the courage to administer the iodid by subcutaneous injection, might possibly abort even an established panophthalmitis. Horses thus injected with a 1 per cent. solution did not seem to suffer any inconvenience from it.

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Three Cases of Surgery of the Lung in Children. JABLOKOW.—Three weeks after the commencement of the illness with fever, cough and pains in chest, the patient, a boy of 10, presented symptoms of a gangrenous cavity in the lung. After resection of the seventh rib and evacuation of the cavity, temporary improvement was observed. The extension of the process required a second intervention, but the cachexia progressed to a fatal termination. The two other cases were cured. One, a girl of 10, recovered after evacuation of an acute abscess in the lung consecutive to grippal pneumonia. Half a cupful of bloody pus was removed through a wide incision in the fifth interspace, and a cavity in the lung tissue of corresponding size was palpated. The fistula persisted a long time, but no tubercle bacilli nor elastic fibers were found in it. In a third case, reported by Alexejew, a boy of 8 contracted a febrile cold. Eight days later an exploratory puncture in the area of dulness revealed thick pus containing diplococci. The seventh rib was resected. Pleural adhesion had occurred, and a cavity 3 cm. deep, was found in the lung. It had perforated into the space between the diaphragm and the lung. When the cavity was being rinsed out, blood-stained fluid poured out of the mouth, inducing violent coughing. Complete recovery occurred in eight weeks.

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Centralblatt f. d. Grenzgeb. d. Med. u. Chir. (Jena), July 10 and 17.

Latest Research on Herpes Zoster. L. SPITZER.—Reviewing recent literature, it is evident that the intervertebral ganglia may show all kinds of conditions in herpes zoster, from normal to the most severe, irreparable injury, that is, transformation into sclerous connective tissue. In some cases, consequently, there must be complete restitution, and in others the resulting lesions are permanent. In 28 out of 32 cases in which an autopsy was possible, no other affection existed. It does not often recur, and Kaposi's case, with its nine recurring attacks, is unique. Epidemics of facial and nasal herpes have been observed; the dividing line between such cases and "genuine" zoster is becoming fainter and fainter. Various infections are liable to induce zoster on occasion. Epstein suggests that the vessels, dilated under the influence of the fever, cause the lesion in the ganglia by mechanical compression. Head and Campbell, in the most important work on the subject of late years, assert as the result of extensive anatomic research, that they consider herpes zoster an acute, specific disease, similar to acute anterior poliomyelitis, but affecting the posterior root ganglia instead of the anterior cornua, and the posterior ganglia cells instead of the motor cells. They consequently suggest the term *acute posterior poliomyelitis* for the nervous affection which is the base of herpes zoster. The essence is an acute interstitial inflammation of the ganglion with necrosis of the ganglion cells. The agent is unknown, but it seems to have an attraction for the posterior root ganglia and generally affects one ganglion alone. The ganglia connected with the intestines by sympathetic fibers are most frequently involved. The extent of anterior poliomyelitis and the fact that the posterior is restricted to one or two ganglia, is due to the fact that the anterior cornua form an anatomically continuous column. In their numerous autopsies, they never found more than one ganglion affected in herpes zoster. They are now engaged in research to determine whether there is any connection between the sympathetic nerve and the herpes eruption. Spitzer considers their theory extremely plausible.

Dermatologisches Centralblatt (Berlin), July.

Psoriasis. E. GERSTLE.—This writer is inclined to attribute psoriasis to a neuropathic origin. He has observed several cases of the coincidence of psoriasis with gout or diabetes.

the meat. Creosote and guaiacol stimulate the organism at first and then depress it, inhibiting its assimilating power, exactly the reverse of the action of the cacodylates, which regulate the oxidations and arrest abnormal waste, stimulating nutrition and assimilation and regulating all the vital processes. [See Editorial in The Journal last week.—Ed.]

Hematogenic Pyramidal Nephritis. Babes.—Three additional cases are reported, distinguished by the hemorrhagic character of the acute infection and the renal lesions discovered at the autopsy. The pyramids were tumefied, whitish or yellowish, disseminated with hemorrhagic foci. The cortical substance was a reddish gray. The papillary and pyramidal nephritis resembled the alterations noted in animals after intoxication with vinylamin.

Treatment of Aneurysms by Subcutaneous Injection of Gelatin. Lancereaux.—Three new cases are described showing undoubted benefit and practically the cure, of two aneurysms of the arch of the aorta and one of the subclavian artery, after injection of 5 gm. of gelatin dissolved in 200 to 250 c.c. of a 7 per 1000 solution of sodium chlorid, repeated as often as necessary, always in the buttocks. The first injection causes the coagulation of the blood to a certain extent, but in time this clot retracts, allowing renewed passage of the blood. A second injection fills up the sac with an additional clot, but this, in time, also retracts, and hence the necessity of repeating the injections until the coagulation has obliterated the aneurysm permanently. Variations from this technique are responsible for the failures reported by others, although fusiform aneurysms are not amenable to this gelatin treatment, as Lancereaux announced at his first communication.

Bulletin de la Soc. Med. des Hop. de Paris, July 18.

Stenosis of the Pylorus Without Retention of Food. M. Soupalt.—The incipient stage of pyloric stenosis causes no trouble except vague, irregular dyspepsia from time to time. In the course of a few weeks or months, pain, vomiting, acid regurgitations and eructations are noted. The pain is the most constant symptom, and is felt in the lumbar region almost as intensely as in the epigastrium. The intensity of the symptoms varies with the nervous condition of the subject. The symptoms appear or are most marked a few hours after eating. This tardy appearance of the pain and other gastric symptoms is characteristic and even pathognomonic of stenosis of the pylorus. Another characteristic is that the affection develops with intermissions, which, however, grow shorter and shorter until the symptoms are almost constant. The stomach is found empty between meals, but after the failure of medical measures, an operation becomes necessary, and in nine cases, related in detail, the lesions in and around the pylorus were discovered at the time of operation, as anticipated. The cardinal symptom—retention—had always been absent or only appeared at rare, brief intervals. Soupalt's experience has included a large number of such cases, and they indicate the necessity of operating promptly in dubious cases, especially at the slightest suspicion of carcinoma, even when there is no retention.

Bulletin de la Soc. Franc. d'Electrotherapie (Paris), June.

Cause of X-Ray Burns. Oudin.—Kienbock, Schraeter and Oudin, from their individual research, believe that x-ray burns are not due to the electricity, but to the x-rays alone. Under interposed screens—part lead, part aluminum—the tissues were liable to become inflamed under the aluminum, while the lead-screened portions were never affected, irrespective of the intensity of the electricity employed and the closeness of the tube. This fact has recently been corroborated by Walkoff, Giesel, Becquerel and the Curies, who have been studying the mysterious rays emitted by radium, polonium and uranium. It has been found that these rays possess the same property of inducing x-ray burns as the Crookes' tubes. Some of these scientists caused serious dermatitis on themselves with these rays. The most conclusive proof of all was the fact that Becquerel—in whose honor the rays have been named—produced a severe x-ray burn on himself by carrying a bottle containing a few centigrams of radium in his vest pocket. The accidents of radiography are therefore proportional to the number and penetration of the x-rays. This article is the report of a committee. It confirms Schraeter's assertion that there are four periods in the life of a tube. During the first it is very soft, the x-rays scanty; the soft parts cast a deep black shadow on the screen. During the second period the soft parts are still visible on the screen, the shadow of the bones is very black, scarcely lighter in the middle of the phalanges. The tube is rich in x-rays, but they have a comparatively weak penetrating power. They produce the superficial lesions on the skin. In the third period, the tube is rich in very penetrating x-rays, and induces deep lesions. The shadow of the soft parts is scarcely visible on the screen and even that of the bones is very light. When the last period is reached, the tube has become extremely resistant; almost all the electricity passes around it, the bones cast scarcely any shadow. It lights up only at intervals and generates very few x-rays, but they possess intense penetrating power and do not induce any lesions. This of course refers to an average exposure. If the exposure during the first or last period was exceptionally long, it would in time induce accidents as during the other periods.

Presse Medicale (Paris), July 13.

Elimination of the Pigment in Bronzed Diabetes. Rabé.—A case is described in which Addison's disease coincided with bronzed diabetes. The epithelium of the liver, pancreas and salivary glands and also of the capillary network of the lungs, was crowded with particles of pigment and the sputum was rusty with them. Rabé concludes, from the facts observed, that the cells of the glandular parenchyma expel the excess of pigment at both their inner, or vascular, and their outer, or canalicular, pole. This imparts two currents to the hemosiderin, one, the canalicular, follows the excretory passages of the gland; the other, the vascular, passes into the lymph and blood which sweep them into the pulmonary capillaries, whence they are expelled in the sputum. The finer granules of hemosiderin which escape this sifting process are carried by the circulation to the kidney and are eliminated in the urine.

July 17.

Iodo-Hydrargyrum Cacodylate in Syphilis. L. Brocq.—Forty-nine syphilitics were treated with subcutaneous injections of a combination of sodium cacodylate, sodium iodid and mercury biniodid. The results show that this is an excellent combination for syphilis with marked disturbance in nutrition, emaciation, or neurasthenia, with rebellious, secondary cutaneous and mucous membrane manifestations, when there are seborrhoid complications, and during tertiary accidents when an energetic action is desired without disturbing the alimentary canal. The solution can be sterilized at 120 C. and mixes with the blood serum without a precipitate. The injections are very slightly, if at all, painful and no abscesses followed its use. Only seven of the thirty-one cases followed to date were uninfluenced by the treatment.

Progres Medical (Paris), July 13.

Arrest of Poisons by the Leucocytes. A. Lombard.—Guinea-pigs were injected with an almost fatal dose of strychnin or atropin. The leucocytes were increased in numbers in every case. Other animals, rabbits, cats, were injected with red corpuscles from the guinea-pigs with no effect. Others were injected with an emulsion of the liver and spleen, and showed symptoms of slight intoxication, as also still others injected with the serum. But a fourth group, injected with even a very small amount of centrifugalized leucocytes from the guinea-pigs, exhibited all the symptoms of pronounced intoxication specific for strychnin or atropin. Lombard believes that the leucocytes seize the injected poison, and then, their vitality lowered by it, hasten to the liver and deposit the toxin, drawing on this reserve from time to time for such amounts as are compatible with the survival of the animal, to eliminate them by the different emunctories.

Revue Gen. d'Ophthalmologie (Paris), June.

Pathogenesis and Abortive Treatment of Panophthalmitis. L. Dor.—If the vitreous humor of animals is squeezed out; on a piece of fine linen, the phenolphthalein test shows that it is decidedly acid in normal conditions, although it is generally assumed to be alkaline. The eye of the horse is best adapted to this research on account of its size and the fluidity of the vitreous. In examining a large number of fresh horse eyes, Dor noticed that one was much less acid than the rest, and on investigation, discovered a lesion in it. This discovery was confirmed in numerous experiences and tests, all showing subnormal acidity in an injured eye. He conceived the idea that this subnormal acidity, or rather, alkalinization of the humors of the eye, constituted a defensive process on the part of the organism. Consequently, he reasoned, therapeutic measures to assist this alkalinization might re-enforce the organism in its struggle. He administered 100 gm. sodium carbonate to horses a few hours before they were killed, and found in every case that the vitreous humor had become much less acid than usual, when the eyes were examined after death. He then experimented on rabbits, and found that a rectal injection of 2 gm. of potassium iodid in 30 gm. of water, the day before the rabbit was inoculated with a culture of staphylococcus aureus in the vitreous, prevented the appearance of any inflammatory process in the eye, if the amount of the culture injected were not much larger than that required to induce a panophthalmitis in the control animal. The iodid also attenuated to a remarkable degree the course of the panophthalmitis induced by a large amount of culture injected. When a small amount of the culture was injected, the administration of the iodid—even several hours after the inoculation—was able to arrest the resulting panophthalmitis. The iodid or any other alkali, in subconjunctival injections, produced invariably negative or unfavorable results. As infection in man seldom or never occurs from a pure culture, and as the amount of the culture introduced seemed to influence to such an extent the appearance and course of experimental panophthalmitis, he concludes that the preliminary administration by the mouth or rectum of a sufficient dose of some alkali—preferably potassium iodid—would prevent the development of inflammation after operations on the eye, or at least attenuate its course. If it failed, no harm would have been done. Those who have the courage to administer the iodid by subcutaneous injection, might possibly abort even an established panophthalmitis. Horses thus injected with a 1 per cent. solution did not seem to suffer any inconvenience from it.

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Psoriasis. E. GERSTLE.—This writer is inclined to attribute psoriasis to a neuropathic origin. He has observed several cases of the coincidence of psoriasis with gout or diabetes.

He also noted that 151 out of 975 patients with psoriasis treated at Joseph's clinic, were cabinet-makers. Chrysarobin has proved most effective in his experience. The patients take a bath the day before and rub off as many of the flakes as possible, scraping afterward if necessary, so that the chrysarobin can reach the morbid tissues. It is applied twice a week, with a stiff brush, to the parts, in a 10 per cent. solution in traumaticin. In some cases a dermatitis followed its application, but this was easily cured by boricized vaselin, and it was noted that the cases in which this irritation occurred, healed most rapidly. A milder salve is used on head and face on account of the stain and danger of conjunctivitis.

Kinderarzt (Leipsic), July.

Causes of Infant Mortality in Summer. W. Hauser.—The weeds eaten by the cows in their summer pastures are responsible for many cases of gastro-intestinal disease. Many of these weeds are poisonous and their juices pass into the milk. In support of this theory, Hauser gives the statistics of mortality in a number of districts in his experience, classifying them by the soil and the weeds that grow by preference on certain soils. His tables indicate a lower death-rate on the granite and sandstone foundation than on the jurassic. He contends that systematic eradication of weeds from pastures would banish certain gastro-intestinal affections in infants.

Therapie der Gegenwart (Berlin), July.

Uselessness of Isolation in Diphtheria. E. von Behring.—The finding of diphtheria bacilli in the throat without marked clinical indications of diphtheria, has no significance, according to Behring. He asserts that about 10 per cent. of the entire population carry diphtheria bacilli in their throat without resulting infection. The bacilli have lost their virulence, or else the individuals possess a natural immunity. He considers all bacteria with the morphological characteristics of Loeffler's bacillus, true diphtheria bacilli, but he would differentiate a simple angina, rhinitis or conjunctivitis from diphtheria, even with diphtheria bacilli numerous in the organ involved, if there were no general symptoms of diphtheria. He affirms that it is useless and even nonsensical to isolate persons who have been exposed to diphtheria. It is impossible to free people from the bacilli or to keep them permanently free. Infection results from a predisposition, which is in turn due to the lack of an antitoxic serum in the blood. The antibodies which undoubtedly exist in the blood of numerous individuals, are probably produced by the vital activity of avirulent diphtheria bacilli in their throats. He consequently suggests that it might be possible to induce auto-immunization by transplanting avirulent diphtheria bacilli into the throats of other human beings. The comparative immunity of physicians to diphtheria may be due to the repeated, unconscious inoculation with small doses of the virus. Extensive, systematic preventive inoculation with antitoxin would induce a natural immunity to the disease and entail the final disappearance of diphtheria. These views are presented at length in his book just published at Berlin.

Wiener Klinische Wochenschrift, July 18.

Influence of Food on Uremia. A. Strubell.—Uremia induced experimentally in dogs fed on albuminoids and fat, or in starving dogs, proved fatal, on an average, in fifty-three hours. Dogs fed on carbohydrates survived eighty-nine hours, or thirty-six hours longer than the others. Strubell states that there is no essential clinical difference between experimental uremia and uremia in man. He therefore concludes that in case of threatened uremia or in any acute or chronic nephritis, the food should be restricted to carbohydrates from time to time, or at least to a vegetable diet, once or twice during the year, for instance. The diet should be the reverse of that recommended in diabetes, allowing all that is forbidden in diabetes, and forbidding what is allowed, with the exception of alcohol.

Clinica Medica Italiana (Milan), June.

The Nerves in Intoxication with Sublimate. U. Alessi.—The autopsy of a woman who died a few days after ingestion of two grams of mercury bichlorid, showed that the nerve cells had been profoundly affected by the poison. Experimental research on animals treated with mercury bichlorid and albuminate demonstrated that the lesions were the same in all cases, and more marked in the cerebral cortex than in the cerebellum, but equally developed in the acute and in chronic intoxications. These lesions are responsible for the death of the animal. They range from simple chromatolysis to necrosis of the elements, but have no characteristic type useful in the diagnosis.

Action of Currents of High Frequency on Tubercular Toxins. E. Margazalli and V. Maragliano.—Tubercular toxins exposed to the action of electric currents of high frequency lose a large proportion of their toxicity, but do not acquire any antitoxic power. Therapeutic antituberculosis serum does not lose its antitoxic power when exposed to the same currents. These assertions are the results of extensive research conducted for four years.

Gazzetta Degli Ospedali (Milan), July 7.

Technique of Subcutaneous Injections of Iron. A. Piessi.—The contradictory experiences of various clinicians with the subcutaneous injection of preparations of iron is probably due to the choice of the point where the injection is made. The citrate of iron and ammonium is preferred at Galvagni's clinic, where the results of this method of administering iron have always been brilliantly satisfactory. A series of 350 injections are tabulated, showing that only 3 out of 54 injections in the back were free from some after-disturbance, while nothing of the kind was observed with 288 out of 305 gluteal injections.

Process of Repair in Experimental Lateral Ligature of Veins. D. Taddei.—In the experimental research on rabbits, silk was found superior to catgut for lateral ligature of the superficial jugular vein. The substitution of connective tissue commences on the second and is complete on the sixth day, but the process of true repair does not commence until after a month, and is complete in the course of two and one-half months.

July 14.

Necessity of Antisepsis in Injecting Gelatin. E. Giordano.—The gelatinized serum used for hemostatic purposes, is an exceptionally fine culture-medium for pyogenic micro-organisms, as Giordano has established by a number of tests. He experimented to find the best means of rendering it unfavorable for cultures, and recommends sublimate, in the proportion of 1 to 3.000, especially for application on infected surfaces.

Harmlessness of Intramuscular Injections of Quinin. G. Setti.—Several cases are described out of Setti's large experience, to demonstrate the absolute harmlessness of intramuscular, gluteal injections of freshly prepared quinin bichlorid, and their extreme efficacy. He considers the intramuscular route the best, if not the only method of administering quinin in ordinary cases of malarial fever. In urgent cases the endovenous route is perhaps preferable.

Giornale della R. Accademie di Med. (Turin), lxiv, 6, 1901.

The Blood in Case of Malignant Tumors. M. Donati.—Nearly a hundred pages are devoted to this research, with [illegible]72 bibliographic references. Thirty-one cases are described in detail with the tabulated results of the examination of the blood. In cases of malignant tumors the alterations in the blood are merely those caused by any debilitating factor, and Donati was unable to establish any special type of the composition of the blood in these cases. However, the site of the tumor has a certain influence. He observed that in case of carcinoma of the stomach, for instance, the hemoglobin and the number of erythrocytes and of the total corpuscles were diminished. Polychromatophile, granulated red corpuscles appeared in the blood, with poikilocytes, macrocytes and microcytes. Normoblasts and megaloblasts were also found in these cases and a small number of erythrophile reds. Hyperleucocytosis was noted in 50 per cent.; there was no leucocytosis of digestion in 80 per cent. The neutrophile polynuclears may dimin-